

By the same Author

THE NAVY IN THE WAR OF 1739-48
NATIONAL POLICY AND NAVAL
STRENGTH
NAVAL WARFARE
COMMAND AND DISCIPLINE
ECONOMY AND NAVAL SECURITY
IMPERIAL DEFENCE AND CAPTURE
AT SEA

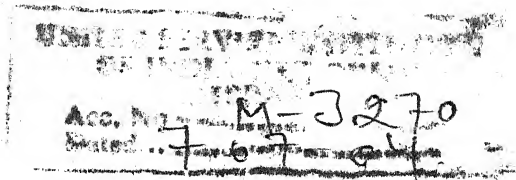
NAVAL TRAINING

By
ADMIRAL
SIR H. W. RICHMOND

*'No element of the naval strategy of peace
is more important than the training of the
officers and men.'*

ADMIRAL SIR CYPRIAN BRIDGE

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INTRODUCTION

THE system of naval education and training underwent several careful examinations, at comparatively short intervals, by strong committees outside the body of the Admiralty, during the last half of the nineteenth century. Very considerable and far-reaching changes were made in the whole system of 'primary' education in 1902. But these changes were not the outcome of any Committee's deliberations: they resulted from no open inquiry, and no record exists of any preliminary investigation. They were, in fact, the outcome of the thought of one man. They expressed his views, though suggestions were contributed by other officers. The main difference between the processes which brought these changes into existence and those of the previous changes was that we possess evidence of the opinions expressed by many experienced officers in the earlier cases, and the recommendations made were the result of hearing those opinions: whereas no such evidence exists of the genesis of the changes of 1902.

All human institutions require watching, for conditions change, experience develops, new needs arise. Some of these needs are dealt with by *ad hoc* measures, and it may happen that the original balance of a scheme may be completely thrown out by additions made, very properly, to meet particular requirements, but unaccompanied by curtailments in other directions.

Since 1902 no comprehensive re-survey of the problem, as a whole, has been made. A Committee under Admiral Custance inquired into certain parts of the 'new' scheme not long after 1902; and a small Committee in the Grand

Fleet, under Admiral Goodenough, made some inquiry in 1917 into the training of midshipmen. In the meantime many new subjects have been introduced into training and new influences have played their part in determining its course. At different times, different subjects assume domination of the minds of officers. At one period proficiency in handling the gear aloft held sway. 'He thinks himself the best officer who has the least blocks in his rigging,' as Commodore Barnett wrote to Anson in 1745. At another period the influence of officers of a scientific mind, like Sir Cooper Key, forces mathematics to the forefront, and it becomes the ruling god of education. The result that follows is that those who have a natural facility in mathematics are accorded advantages over their contemporaries in the form of accelerated promotion. Later, engineering holds sway. 'The ship is a box of machinery and therefore the naval officer must be an engineer,' is then the slogan. Again, a sudden discovery is made; the gunnery of the Navy is gravely inefficient. Reforms in training follow. The pendulum swings violently, and before long nothing but gunnery is thought of. The technician rules the roost, and the study of technique becomes regarded as the first and only matter of importance. Even tactics are subordinated to gunnery with the most startling and unfortunate results. Thus it is not long since a highly placed Sea Lord informed the present writer that the accurate running of the torpedoes in the battleships was a factor of greater importance in the efficiency of the Navy than the study of war. The most recent patch to be added to the garment is training under sail. What is to be subtracted to

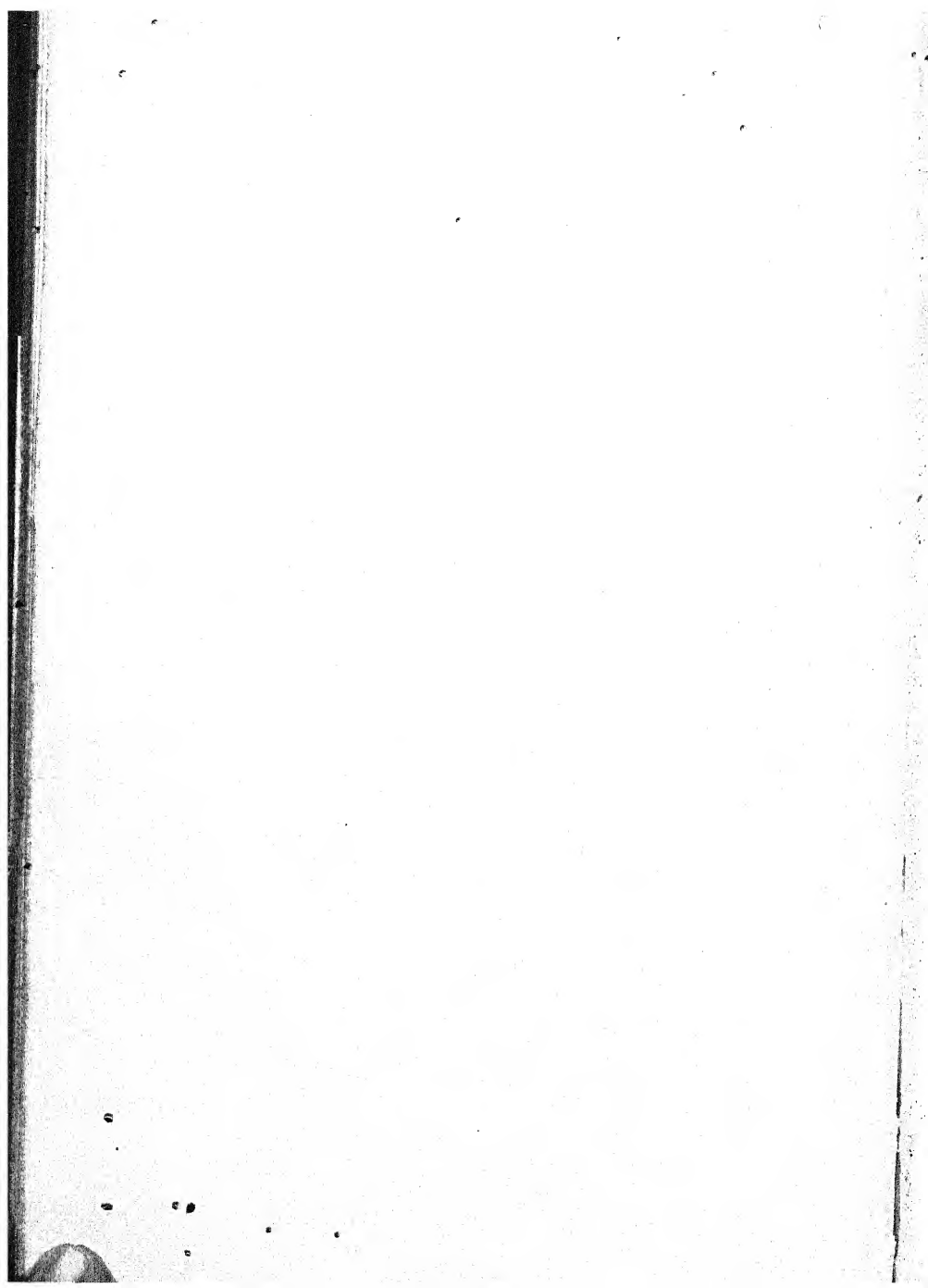
make place for this? What is its object? These are questions of great importance.

These various additions and alterations are very likely to produce an unbalanced whole. Naval training, if it is to be efficient, must be looked on as a whole. The only way, in the present writer's opinion, in which to obtain a comprehensive view is to start with a clear understanding of the object to be attained. Is it to produce a Seaman, or an Artillerist, or a Scientist? Is it to give us a Midshipman, or a Lieutenant, or an Admiral?

Unless there is a proper balance between the various parts of the education and training it will not be, in the true sense of the word, efficient. If it is not efficient it is not economical in any sense of the word. If methods are used to attain results which can be equally well attained by other methods at a lesser cost, the system is not economical. With economy so pressing as it is to-day no stone should be left unturned to discover waste. With efficiency so necessary in a reduced fleet every element that affects efficiency should be examined.

In the following pages, written originally when I held the appointment of Director of Training in 1918 and since then developed as I made further study of the problem, I have attempted to build up a system based upon the object which is in view, discussing at each stage the course of action which, in my opinion, appears best calculated to attain that object.

H. W. R.



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I

CONDITIONS AFFECTING TRAINING

IT has rarely, if ever, been the case in any wars in which this country has been unsuccessful, or only partially successful, that failure has occurred owing to defective fighting qualities. There have always been individual courage and skill of the highest order in all ranks and ratings; but mismanagement of strategy has frequently thwarted the efforts of individual commands. This was the case in the early years of the war of the Austrian Succession. It is strongly exemplified in the startling difference between the successes and the failures in the Seven Years War which alternated as the Duke of Newcastle or Pitt conducted the affairs of the country. It was the fundamental reason for the failures in the War of American Independence. In modern wars, the British failures in the Russian War of 1854-5, the Austrian defeat in the war of 1866, and the French *débâcle* in 1870 tell the same tale. It is not less true of the last Great War.

The mere fact of having served successfully as an officer in the junior ranks does not assure capacity for high command. The qualities and knowledge required at one stage, although important factors at that stage, are not identical with those required in the other. Practical efficiency and knowledge of men will create a good sea-officer, but unless joined with study of the higher art of war, will not produce a great admiral or member of a Board of Admiralty. The difference was pointed out by Collingwood in 1801; speaking of a youngster he said, 'If he be sent immediately to sea, he may become a good sailor *but not qualified to fill the*

higher offices of his profession, or to make his way to them.' If, then, the system of education does not provide the means of a study of war and of the selection of the fittest men for the directive offices, our higher command is bound to be weak, and both our preparations and their execution will be proportionately faulty; and the money of the Exchequer will be wasted in peace and squandered in war. It is to 'education', used in its broadest interpretation, that we can trace success or failure; the remedy lies in its improvement.

The far-reaching effects of sea power, long ago preached by Mahan, but well known to British Governments before Mahan was born, made themselves evident in the late War, slow as the Governments of this country and of its Allies were to recognize, and to make full use of, the weapon that lay in their hands. For, lacking a naval school of serious strategical thought, we were under the strategical domination of a continental school of military thought which did not rate the value of the British Navy in the Alliance at as much as one bayonet—an astounding confession of ignorance. In a future war no happy-go-lucky system depending upon the employment of catchwords and phrases will serve as a substitute for principles and a policy well understood and acted upon. If war unfortunately should come thirty or forty years hence, the midshipmen and lieutenants of to-day will provide the fleet commanders and Admiralty Boards of that time, and a thorough preparation on our part will be needed if the Empire is to survive. We cannot afford again to waste our efforts in war in the building of exaggerated cruisers and of submarines mounting twelve-inch guns for which no one could discover any use when built: nor in attempt-

ing to deal with the dangers of submarines by the utilization of trained seals while rejecting the method of convoy. Nor can we afford to waste our substance in peace through incapacity to make up our minds as to the needs, the qualities, and the size of our fighting ships.

As the youth of the nation are the trustees of posterity, so the youth of the Navy are also trustees. We cannot, therefore, pay too much attention to their education, not only guiding in its practical direction, but also ensuring that it forms a preparation for continuous and progressive advancement throughout the whole career of an officer.

The system of education introduced in 1902 had not had time to produce any effect calculated to modify the course of events of the late War, since the young officers who came to sea between 1914 and 1918 were too young to reach the rank of command in anything but the smallest craft. By 1914 the scheme, officially heralded as the most perfect expression of naval thought on education, had already undergone much modification. So far, for instance, as it affected the marines it lasted but a very short time. The principle of interchangeability of deck and engine-room officers had hardly survived the new type of marine. The naval instructor had a precarious existence. He was to be abolished in 1902; but though officially abolished, like Ministries in the same case, he reappeared before long. The period of training in engine-room work at sea had already by 1914 fallen far short of that of the original intention: since the War it has been severely curtailed still further. The War showed that engineering was not a necessity for the deck officer, as we had been assured that it was. The deck officer, on the other hand, has had great calls made upon his seamanlike qualities—

qualities which were barely, indeed very inadequately, provided for in the 1902 scheme. The necessity of relieving officers of a fighting rank from supervision of machinery, in order to give them more opportunity of attending to the fighting efficiency of the armament, has since been seen first in the transfer of electrical machinery from the executive to the engineering branch, a complete reversal of the policy set forth in the scheme. The deck officer has tended to return to the deck, and the demarcation between his duties and those of the engineer has been shown to be as pronounced as it had always been believed to be prior to 1902. Nor is this all. The efficiency of the Fleet could only have been maintained by thoroughly competent engineers. These we then still had, and they showed their full worth, and the need for such professional engineers. The system of technical training that had produced those officers was justified in its results, though there was clearly a need for some changes in the methods of providing them and for giving them better prospects in their Service. The 'New Scheme' proposed confidently to surmount all these difficulties. It has wholly failed to do so, as we see from the insufficient number of officers of 'Dartmouth training' to fill the posts at sea.

Apart, however, from the fact that the whole scheme of 1902 was dominated by an incorrect interpretation of the engineering requirements of a sea-officer, the actual training at sea to-day is not well calculated to make either a good seaman or a good officer. The young officers even now come to sea with so inadequate a knowledge of the theory of navigation, the work of pilotage, gunnery, and torpedo, that the hours between breakfast and seven-bell tea have to be devoted almost entirely to instruction,

instead of being available for performing the work of an officer. Owing to their need for instruction, the boys have had to be herded in masses in large ships in order to learn about hydraulic-worked artillery which is not fitted in smaller vessels; though recently, owing to the small number of large ships in commission, a return to lesser, though still large, ships has been made.

Owing to the belief that the officers must be engineers, they were taken away for months from their men, their quarters, and their boat-work, to become, temporarily, engineers, to the great disturbance of their military and seamanlike training, and to the grave disadvantage of themselves as units in a ship's organization. Many of these defects have existed for a long time, but they have been greatly accentuated of recent years during which, owing to changes in the design of ships, those counter-acting influences have disappeared which in the old vessels served to mitigate the evils.

In sailing ships, watch was a live thing. At sea there was always something to do, and though a boy might be at school during the forenoons and afternoons, there were frequent exercises aloft, and work connected with the masts and yards, which developed his initiative, taught him his job, and made a man of him. With the disappearance of masts and yards these excellent influences disappeared also; but it may well be doubted by those who went through that useful training whether the proposal recently made to introduce a few months of training under sail will be of any value. The old training was effective because it was extended over several years. No short dose of a few months is going to produce those results.

In any event, it should be evident that a system of training suitable in circumstances which enabled some degree of balance to be held between the conflicting interests, may fail altogether when that balance has been lost, as it has been for the last thirty years. Different conditions of life require different treatment. It has been insufficiently recognized in recent times that instruction in mathematics or science form only a portion of a sea-officer's education. In consequence of a narrow view, in itself the result of education being largely directed by civilians who have no knowledge of what is needed by a sea-officer and by technical officers whose vision is confined to technique, important elements in training have been gravely neglected, unimportant ones have been exaggerated, and an unbalanced system has developed, ill-adapted to produce the qualities and qualifications required in a sea-officer.

II

THE OBJECT OF NAVAL EDUCATION

'The different sections of instruction comprised in a system of naval training or education are means, not ends. The object is not gained when we have produced perfect mechanics, perfect physicists, perfect chemists and perfect students of history. What is wanted is men so educated and trained that they will be able to carry out, plan or supervise the operations of naval warfare.'

ADMIRAL SIR CYPRIAN BRIDGE.

WHAT is the ultimate object of naval education and training? It is to produce a *fighting sea-officer*.

The word 'sea' means that his profession is that of following the sea. He must be a *seaman*, having all those arts which are summed up in that word 'seamanship' at his fingers' ends. He must be able to look after his ship and to move her in safety about the world. The former quality demands a knowledge of the ship, her capabilities, and the use of the fittings used by a seaman with which she is provided. The latter demands a knowledge of the twin arts of navigation and pilotage. As a cavalry-man must be at the same time a horseman and a horsemaster, so a seaman needs the corresponding qualities. As the cavalry-man is neither a horse-breeder nor a veterinary surgeon, so the naval man needs neither to be a constructor nor an engineer.

A fighting man needs capacity to use men and weapons. The weapon of a junior officer is the gun or other instrument under his command; of a captain, the ship; of a flag officer, the squadron or fleet; of the highest flag officer, the Navy as a whole. His preparation is therefore a preparation in matters technical, tactical, and

strategical. The training must be such as to provide for the full development of the powers in each sphere.

To use a weapon two things are needed, a knowledge of its mechanism and a knowledge of its practical use. Of these the latter is, to the majority, more important than the former, and the greatest caution is needed not to carry our zeal for the former to too great a height, and to develop officers into gun-makers and ship-builders: a fault which for many generations has been a besetting one of the Navy. It has been particularly marked, and has had a correspondingly deleterious effect, during recent years. This was particularly well expressed by Captain Gougeard, of the French Navy.

‘Il est absolument inexact de penser et de dire que l’instrument de guerre, bâtiment de combat, artillerie, doit être produit par ceux qui s’en servent, et que, sous ce prétexte, les officiers de marine sont en droit de réclamer la construction des vaisseaux, les artilleurs celle des canons, l’infanterie celle des fusils, etc. La vérité est infiniment plus facile à fonder: l’instrument de guerre doit être produit par celui qui a appris à le construire, et dont la mode d’éducation et d’instruction aura été dirigée spécialement vers ce but.

‘Aux marins appartient, sans conteste, le droit d’indiquer, de formuler des qualités que doivent réunir les armes de guerre — navires, canons, fusils, etc., et aussi les conditions de rayon d’action, de facilité d’évolution, de vitesse, de résistance à la perforation en ce qui concerne les navires de poids, de résistance, d’efficacité en ce qui concerne les armes: à eux à déterminer et de fixer les conditions auxquelles le matériel, sous toutes les formes, doit satisfaire.’

In tactics, the ‘weapon’ is the fleet or the ship. It includes a knowledge of the conduct of operations of bodies of ships against other bodies: the functions assigned

to every type and reasons for differentiations of type and the active exercise of those functions. It is based upon various underlying basic principles which have been evolved from generations of war on sea and land.

Finally, in strategy the 'weapon' is the Navy or the fleet. It includes a knowledge of the employment of naval force as a whole, and the methods of overcoming the naval force of the enemy; the use of naval force in offence and defence of territory; the laws governing, and the methods used in, attack upon and protection of trade; and all the measures by which the use of the sea in war is made to subserve the national ends. Nor is strategy concerned solely with a navy. It relates to the combined use of all the national elements of strength—Naval, Military, Aerial, Commercial, Geographical, and Personal.¹

The word 'officer' completes the definition. An officer is a person in whom we find certain specific and defined characteristics. He must be an educated man, for his work requires a broad outlook and he will have to deal with educated men both in and out of the Service. Great questions will fall to him to decide, and education is necessary to train his mind and enable him to grapple with these questions. He must possess powers of organization. He must know how to command the respect of his subordinates and must therefore have a high sense of honour and duty. He must have a cultivated judgement, and a character which does not shrink from responsibility.

¹ The Dutch letters of 1652 refer constantly to the *two sides* of a commander's duties, fighting and seamanlike. Martin Tromp writes, 'We shall on all occasions strive to the uttermost to employ *good seamanship and soldiers' craft*' (N.R.S. *First Dutch War*, vol. iii, p. 48). His instructions of 26 June make the same distinction: he is told to let slip 'no opportunity which you can seize as a *soldier or sailor* to attack the English fleet' (ibid.).

He must be acquainted with, and act up to, that set of ethics which we call the military virtues.

It is clear that the fighting sea-officer cannot be produced by any one school. He is the product of a lifetime, spent always with the ideal of eventual high command clearly before him. He must not be content to be a sea-man only, or he may, as Collingwood said, 'become a very good sailor but not qualified to fill the higher offices of his profession, or to make his way to them'. In trying to do so our officers will study many matters, perhaps acquire some knowledge. It is true that many who thus work may never have to exercise this knowledge, or even be called on to express their views upon strategy or policy. Their opinions may never be asked, and it may seem to them that the time so spent in preparing themselves for what may never come will be wasted. But it will not, and for many reasons. The thought of any community is the aggregate of the thoughts of every individual, and if each is striving for the best, although the opportunity of distinction may not come, the level of thought of the whole is raised by the individuals of that whole. The tone of the whole service is raised higher and therefore the service is better prepared for its ultimate function—war—or the prevention of war.

But another point presents itself. What if an officer should be called into council or command who, owing to the fortune of life, has attained his high rank without study of what service in council or command requires? What shall the officer who has made no study of the conduct of war in general, and of sea war in particular, say, when, as a Lord of the Admiralty, or a Commander of a Fleet, his opinion is asked in the Cabinet? Or how shall

he decide when a difficult situation presents itself? He may give no opinion, or be unable to explain and support the opinion he does give. He may even give a wrong opinion. Wars, as remarked earlier, are rarely lost by lack of courage. They are nearly invariably lost through lack, first, of character in the leaders, and, as they grow in scale, from lack of thought and preparation, through statesmen and officers reaching high stations for which their minds are unfitted because they have never made a serious study of war, however much they may have studied in the one case politics, and in the other artillery, electricity, or mechanics.

This higher part of an officer's training must be a never-ceasing process going on throughout his life. It is he alone who can teach himself. But his preliminary education must be such, both on its moral and other sides, as to prepare him to teach himself, to instil in him the desire, and to inform him *how*, to learn. The education of an officer begins when he enters the Navy. It does not end till he retires.¹ Its nature varies throughout that time. It proceeds by stages, depending, in each stage, primarily upon the duties required of the officer in the rank he holds.

In the initial stages, the officer requires to be able to perform the duties of an officer in a ship. He needs a knowledge of men and of technique. He must be a seaman, a gunner, a torpedo officer, capable of *using* the instruments with which he works, from the ship herself down to everything of a fighting or navigating character employed in her. While, however, the practical performance

¹ In 1815 Sir William Napier and his brother Charles, both officers of high military rank, joined the Military College at Farnham, to qualify themselves by study for higher commands. *Colburn's United Service Magazine*, June 1864, p. 235. (See also p. 122 et seq.)

of his duties will afford him opportunity of making himself master of them—and it is only by practical work that any one becomes anything more than an amateur in any profession whatever—this will not actively affect and train his mind for higher matters of policy. If the brain be allowed to lie fallow for several years, it will deteriorate and become less able to wrestle with problems which require analytical or synthetical study. During this period, therefore, the mind requires to be kept in training, building up its knowledge by reading, developing the ideas it then encounters, and strengthening or correcting the conclusions it learns to draw by means of discussion. The habits of reading and thinking must be cultivated. Collingwood was particularly emphatic on this point. He writes advising a young officer, ‘Read, let me charge you to read. Study books that treat of your profession, and of history. Study Faulkner’s Dictionary, and borrow, if you can, books which describe the West Indies, and compare what you find there with your own observation. Thus employed you will always be in good company. Nature has sown in man the seeds of knowledge, *but they must be cultivated to produce fruit.*’ This is the preparation for the higher ranks which it is the duty of every officer to make, and for administration to foster. As he mounts higher in the service his leisure for study and for broadening his mind will increase; and, provided he has not lost the habit but on the contrary has trained his mental faculties by useful reading, thinking upon and writing about what he reads, and forming his own opinions, he will be on his way towards making an efficient senior officer, provided he has the character, the powers of decision, initiative, and imagination required in a com-

mander. Sir William Parker's rebuke to Sir Edward Belcher when captain of the *Samarang* may well be quoted.¹ In 'a tone of sadness mixed with anger', he remarked, 'A skilful navigator and a clever seaman you may be, but a great officer you can never be *with that narrow mind.*'

This essential graduation and progression of the education in the profession of arms was the theme of the great French military writers of the second half of the eighteenth century. Turpin de Crissé and M. de Beausobre expounded at length and with incontrovertible logic that the military science, like all others, is divided into phases of primary, secondary, and higher, every one of which is essential for the production of an efficient general.² The same is true of the production of an admiral.

¹ *Life of Admiral of the Fleet Sir William Parker*, vol. ii, p. 61.

² De Crissé's remarks are quoted on p. 27.

III

THE PLACE OF ENGINEERING

THUS far we have seen that our product must be a seaman, a military man, and an officer. In which capacity does engineering fall? That an officer of to-day should have some knowledge of the machinery he has to use is not to be denied. But what machinery is this? Is it the whole of the machinery in the ship, or some of it? What must this knowledge embrace? and to what extent must the officer be a practical mechanic? These are questions that cannot be answered offhand with the glib statement which used so frequently to be made that, as a modern ship is a box of machinery, so every officer must be an engineer.

According to the ideas underlying the scheme of 1902 every officer must be an engineer. According to a contemporary official publication the aim of the training at Osborne and Dartmouth was to produce 'a mechanical engineer'—not a fighting sea-officer. This view, by no means accepted in the Service at sea at the time, can be reviewed in the light of the preceding remarks and in the more valuable light of the experience of over four years of war. The importance of the question cannot be over-estimated, for, though that conception has gone, the present system of early entry, and training up to the seniority of Lieutenant is affected by it.

In the first place, what is meant by 'engineering'? There are, broadly speaking, three main divisions of engineering material in the completed ship—the propulsive, the armament, and the electric. Her hull is the

product of engineering as well, but this need not be discussed as it is not intended that the naval officer shall also be a constructor. According to our present standards, the naval officer must be acquainted in a high measure with each of these. Is this necessary, and if so, why?

To examine this we must return to our definition of the 'fighting sea-officer'. In which category, that of seaman, military man, or officer, do each or all of these branches of mechanical knowledge fall?

As a seaman, it is his business to carry the ship from one place to another, secure her in her berth, handle her under all conditions of weather, alone or in company. He needs no intimate knowledge of engineering to perform any of these and the related duties. Ships in thousands are daily navigating the world, and have done so for the hundred and more years since steam was introduced, without an acquaintance on the part of their commanders, other than the most elementary, of the propulsive machinery. It used to be argued, at the time of controversy on this matter, that as the naval officer of the past needed acquaintance with the propulsive machinery of the sailing ship, so, by analogy, must his descendants be expert in the new form of propulsion. As he could handle the sails then, so must he be able to handle the machinery now; but the argument was not carried back a stage farther, to the period of galleys. Was the fighting officer obliged to be able to handle an oar? Did Don John of Austria, Barbarossa, or Spinola ever sit on a thwart with half a dozen others at the loom of a sweep?

Omitting, however, the galley, let us consider the sailing-ship analogy. It fails, because it makes the mistake of comparing two things of a wholly different order. The

seaman in sailing days could not move his ship from her anchors, could not cast her to port or starboard, tack her, handle her, or judge what sail she could carry without a thorough knowledge of masts and sails; and these were under his eye. He stood on the poop and from thence could see every part of the machinery; not only could, but must. Even then, with the great practical knowledge required, the officer need not be a complete ship-husband. Maintenance fell to warrant officers—the carpenter and boatswain. St. Vincent may be found issuing a memorandum ordering the first lieutenants to leave the staying of the masts to the boatswains, whose duty it was, in consequence of the large number of cases of sprung masts owing to bad staying by the lieutenants. Cochrane could learn from Jack Larmour how to turn in a deadeye, but Jack Larmour was not the type of naval officer who won victories or conducted campaigns, though he may have been able to club-haul a ship more efficiently than Lord Howe or Lord Nelson. Carkett was a brave seaman but he could not understand Rodney's intentions and—according to Rodney—ruined the attack. Mere technical seamanship, it cannot too often be repeated, is not enough for a commander of a ship, squadron, or fleet.

Nowadays, the captain on the bridge can turn his ship, cast her, handle her, judge how hard he can drive her into a sea without in any sense whatever being an engineer. Indeed, for the last named, it is long experience as a seaman on the bridge that is needed. He could navigate his ship from the Thames to Auckland without knowing whether she were fitted with turbine or reciprocating engines, much less how one or other set was constructed, or the business of maintaining them in efficiency. He

does not need to see the engines rotating, pumping, or doing any of their functions, as his predecessor needed to see the sails, in order to turn his ship. All he has to do is to send orders as to what he wishes the engines to do, for which all that he has to know concerning the machinery is its limitations. The old seaman could not have club-hauled his ship from a station in which he could not see the topsails.

There is, however, a branch of engineering with which the officer, as seaman, needs acquaintance. He must understand the manner in which the wheel is connected with the rudder, otherwise he will be at a loss when some mishap occurs in the steering arrangements. He must also know how the capstans are connected to their engines, or he cannot moor his ship. He must be acquainted with the pumping and flooding systems. But such knowledge as he requires of all of these matters is not an intimate mechanic's knowledge, nor does it need an extensive engineering training to learn about them. Thus, the navigating officer has always been expected to be conversant with the steering system, though he may be wholly ignorant of the steering engine itself. The knowledge wanted is, in fact, a broad knowledge of principles and their application to a particular ship, and not a minute knowledge of details of a mechanical nature. This knowledge is within the reach of any intelligent man, is easily acquired, and does not require an engineering training.

As a military man the officer is no more concerned to have a knowledge of the propulsive machinery than he is as a seaman. Beyond the fact that this machinery places in his hands the power of rapid movement, that it entails the provision of supplies of certain kinds, and of periods

for overhaul at certain intervals, he is unaffected by its nature or design except from an administrative point of view. Whether the ship be driven by coal, oil, or electricity does not affect the military problems of strategy or tactics; nor the formation of military character, the science or art of conducting war. He is concerned to know what differences in his powers of using the naval forces result from the adoption of a particular mode of propulsion, what responsibilities may be entailed by the change in the nature of propulsive agent used—such as a change from home-produced coal to foreign-produced oil; or how a particular form of motive power may increase or decrease his power of rapid action. But none of this entails a knowledge of mechanics necessary for a mechanical engineer. How glands are packed, or the density of boiler water ascertained, do not affect him either as strategist or tactician.

Lastly, as 'officer' he has no need of a knowledge of this form of machinery, which, by previous reasoning, does not fall within the province of his work. His powers of command, knowledge of men, humane outlook, will not be developed by a study of machines. Men, the experience of others in books, and his own experience, are the sources to which he must apply.

Passing from the propulsive to the armament engines we reach a better established claim. In his capacity of seaman there is no need for an acquaintance with the gun-machinery, but as military man he cannot command a turret without some knowledge of the turret-machinery. But we must be circumspect in defining this knowledge. It must be such that he can *use* the turret. He needs the practical knowledge which the driver of a machine—for

such he is—requires. But he is under no necessity of knowing how the machinery is constructed or the scientific laws governing the design. Design and manufacture form no part of the function of the military officer in the ordinary course of his service. They are the business of skilled men whose lives are spent in that nature of work. Nor is it necessary for the military officer to be able to repair the machinery. This is the work of artificers, with whom he cannot compete in manual skill and knowledge, the result of long training and experience.

The services of the military officer, as adviser concerning the use of the gun, may be needed in the development of design at armament works and in research establishments. Such an officer would, however, be one of more than ordinary qualifications. He would be a man of special aptitude, who has received specific training in the work. Thus, all artillery officers are not firemasters. Those officers, then, who are needed for special work should receive the special training necessary, and as they would draw apart from the ordinary course of sea-work they should transfer from the branch of executive command to the administrative branch of the Navy: as officers in the past who became Commissioners of Naval yards ceased to hold the military rank.

It is then, to the limited extent above defined, that, *qua* military man, the naval officer needs to be an engineer.

Finally, there is the electric machinery. Electricity plays a growing part in engineering at sea. How far must the fighting sea-officer be an electrical engineer?

In the first place, if he is to be an electrical engineer at all he must be a professional and not an amateur electrician. To be this, he must spend some years in learning

the science, and, when he goes to sea, must spend his time practising the profession of electrical engineering in its relation to the machinery of the ship. If he does this, his years as a lieutenant are spent between decks. It is impossible that at the same time he shall be fitting himself for high command, practising the seaman's duty of handling the ship, the military man's art of fighting, or the officer's of commanding men. To become an efficient electrical engineer he must devote his entire time to the study of electrical engineering, which means study on shore, not at sea, at a considerable cost to the country, unless he enters ready-trained in that profession. He cannot be appointed to service in destroyers and small craft. Hence, if we superimpose upon his profession of military man and seaman this second profession of electrical engineer, we shall detract a great deal from the perfection of his more important qualities. No man can learn, or acquire experience, in everything; and the naval officer of our definition has already so much to learn and experience to gather in his immediate capacities that he has not time to add this extra work. We shall, if we try to make a too-many-sided man, produce only an amateur. Amateur strategists and tacticians do infinitely more harm than amateur engineers, for the issues they control are more far-reaching; and whereas the mistakes of an engineer may be corrected by a subordinate before they have done harm, the strategist and tactician have generally no subordinates who can correct their mistakes in time to save their fleets, or the country, from disaster. This is amply proved by all experience of war in all ages.

Turning now from reasoning to experience we shall find these views corroborated by four years of war. Deck

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officers were not required to go into the engine-room nor engineer officers upon the bridge. That need for interchangeability which was so strongly emphasized was never felt. Commands, except some of the smallest, have been wholly in the hands of officers without engineering training, whose acquaintance with propulsive machinery is of the slightest, picked up in the course of service. Yet it may safely be averred that no situation was prejudiced throughout the war, and no lives lost, owing to deficient knowledge of engineering on the part of executive officers. Grave deficiencies in education and training did, however, show themselves in other branches of the sea-officer's work, and caused the loss of thousands of lives and of millions of money.

The argument that every officer must be an engineer, because a ship is 'a box of machinery', may be examined in the light of the experience of war. Probably no type of vessel has a greater percentage of her space occupied by machinery than the submarine. What evidence can be drawn from submarine experience?

In our own service the submarines were for the greater part commanded by officers who had not been trained as engineers. The commanders who worked so admirably in the Heligoland Bight at the beginning of the War, who penetrated into the Marmora and Baltic and operated there with such skill and courage, were officers brought up in the old scheme of training, their engineering consisting solely in the special course of submarine work. It was officers of this school, in association with professional engineers and constructors, who developed the submarine and commanded her; and officers of the Royal Naval Reserve were found competent to take their places, beside

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the others, in those vessels; and very well indeed they performed their duties. Experience showed that, in war, a commander has not time to take upon himself the whole care of the maintenance of the machinery of his boat. This work was done by engineer officers specially appointed.

If we turn from our own service to that of our recent enemy we find the same thing. The German commanders of submarines were not men trained as engineers; yet no one will pretend that they were not efficient. Their material was poor compared with our own. Their training was short. Yet they succeeded in passing through the mined Straits of Dover, making long passages at sea, developing the submarine into a cruiser—and sinking some nine million tons of shipping. The German officer had, in fact, left the mechanical part of engineering to mechanics and not tried to make one man practise two professions. His ships were well built, his guns and his gunnery were excellent, his shell, his fuses, his mines, and his searchlights were far better than ours. Thus he did not lose in a material sense. The evidence of the War is indeed conclusive as to engineering not being a necessary part of a fighting officer's equipment. We have neither time nor money to spend on superfluities. Therefore the tendency since the War has very properly been to reduce the deck officer's training in engineering, and to return to the old system of entering officers specifically for the responsible and honourable duty of engineers. Still, the balance remains weighted on the side of technical and engineering work. The 'military' side of naval officers' education, though it receives more attention than it did before the War, still fails to receive the attention it requires if an officer is to be a 'fighting officer' in the full sense of that term.

IV

THE WHERE AND HOW OF EDUCATION

THE object being to produce a fighting sea-officer, the question which immediately presents itself is how this object shall be attained. Where and how shall the officer learn the elements of his craft, where and how shall an interest be developed in him which will encourage him to study? And here it should be said that it is not imagined that any system can assure that more than a proportion—a small proportion—of men will be produced who will develop into real and profitable thinkers, men of the type which is needed for high command or the highest employments at head-quarters. But the talent is latent in some, and a properly organized system is needed to provide a channel for its development; while at the same time, as remarked earlier, the general level of thought will be raised by those who read, even though they should not have the mental aptitude for constructive and deductive thought upon an extensive scale.

The need for defining the 'where' and the 'how' is a very pressing one, for with these two qualitative conditions is wrapt up the greatest problem of the system of education. The answer lies between two extremes. We may enter a boy very young into the Navy and send him straight to sea, with little general and no naval knowledge; or we may keep him ashore till he has acquired a good general education and has also been taught and has practised all those elements which go to making up a fighting sea-officer, not sending him to a ship *as an officer* until his education has covered the

whole of that wide field. Like most extremes, there are objections to each, and we have to discover where the mean lies.

In order to determine how we are going to train the young officer we must examine in some detail what he will have to *know* in order to be able to perform his duties. Having made such a survey we should see how much of this he should learn before he enters the service; what parts of his further training are best carried out on shore and what parts at sea; what should form a part of his early training and what left until later; and how a progressive and continuous development of his capabilities as a fighting sea-officer are to be ensured.

Both the 'seaman' and the 'fighting-man' parts in him are in a sense subordinate to the 'officer'. For if the officer-like qualities are really instilled we shall have permeated him with a zeal and determination to perfect himself in his duties. We must in fact develop in him what the Japanese in the lofty Imperial Rescript of 1888 term 'True-heartedness'. General education and moral training, as distinguished from mere technical instruction, are the two factors which influence this side of his development, and therefore should form the first subject of consideration.

An educated man makes the best officer. Of this there is not a shadow of doubt. Our initial selection must be made in such a manner that we can throw the net as widely as possible and catch in it all who are, or have in them the promise of becoming educated persons. As the age of a boy affects our ability to discover whether he is educated, age is a factor which will greatly influence the scope of our choice.

What, then, is an educated man? He is primarily a man whose powers have been developed by mental or spiritual experience. Education trains character: and character is developed by experience. In the young, development is accelerated by means of books and surroundings which stimulate the reasoning, thinking, and observing powers. The actual educational value of 'information' is small, and within certain limits—wide limits indeed—it does not matter what subject in the broad reaching areas of human knowledge is used as the vehicle of development of character and the training of thought. There is no reason why this process of producing an educated man should be confined to subjects directly connected with the service. While mathematics, history, languages, and science are subjects directly bearing on the professional work of the Navy, the classics, logic, and literature are not less valuable in training and developing the mind and should have due weight in testing the claims of a candidate. The remarks of a Science Master of Winchester¹ are worth considering in this matter, even if we do not accept his conclusions in their entirety.

'In this connexion (the value of a classical education) the experience of France and Germany . . . has been expressed in most unequivocal terms. After ten years' experience of the students drawn from Realschulen, (viz. schools where the education is entirely "modern") as opposed to those of the Classical Gymnasium, the entire scientific professoriate of Berlin University petitioned the Government to return to some classical basis of education on the ground that they foresaw "grave danger to the Fatherland" in the uniform inferiority of mental calibre among the students turned out

¹ D. R. Pye, writing in the *Nineteenth Century*, July 1916.

by the entirely modern schools. In France, the "Maîtres des Forges" drew up a petition to the same effect, declaring that the students from the new schools, though better equipped in mathematics and science on arrival at the technical school, invariably fall behind the classically trained boys in the later *Semestres* of their course.'

Albert Ballin, the great Hamburg shipowner, said much the same thing to von Bülow. 'If I had two candidates for a post in the Hamburg-Amerika Company, and one could read Homer and Virgil in the original and the other knew all the intricacies of double book-keeping and was experienced in stock business as in exchange discounting I would prefer the former.'¹

These remarks may seem to some to claim too much for classics; on that I am incapable of expressing any opinion. But the speeches not many years ago of many of the most distinguished British engineers of the day were of the same tenor as the opinions of the Berlin professors and French ironmasters. With practical unanimity all recommended that a general education, of which the object was a training of the mind to master problems, was preferable in every way to an early specialization. Thus Sir William Siemens said, 'College teaching should deal very much with principles and very little with details.' Professor Sylvanus Thompson in a similar manner said, 'In all studies there should be cultivated precision in the use of words and cogency in the manner of thought. These things are more important in the long run and vastly more important *in the making of a professional engineer* than the acquisition of a hoard of scientific facts.' And, in a memorandum dated 4 May 1916, signed

¹ Bülow, *Memoirs*, vol. i, p. 102.

by some of our most eminent men¹ touching on the teaching of science, they said:

'Some of the most distinguished representatives have strongly insisted that early specialization is injurious to the interests they have at heart, and that the best preparation for scientific pursuits is a general training which includes some study of language, literature, and history. Such a training gives width of view and flexibility of intellect.'

In the Service we have gone to the opposite extreme and attempted specialization with little boys whose minds are too immature to absorb the knowledge. We have endeavoured to instil knowledge, in fact, into receptacles which have not been rendered fit to receive it. This is like pouring water into a basket. This question was discussed long ago by Turpin de Crissé in his *Commentaires sur Montecuculi*. De Crissé condemned the early age of entry introduced for the officers of the French Army in Louis XIV's time.

'The age (17) at which the pupils leave the school is precisely that at which they should be beginning to learn (their military subjects). The instruction given to these children, even supposing they profit by it, consists only of vague matters, far off suggestions, which age and continued study might fully develop. . . . One cannot expect that their minds should be sufficiently developed at this tender age to be capable of the necessary reflection and application. Thus, the more above their age the teaching, the less they will understand or pay attention to it. The whole seems a pure loss.'

De Crissé distinguished between primary education between 15 and 17 (history, geography, languages) at a civil school, secondary education between 17 and 21

¹ Among others Lords Bryce, Cromer, Curzon, and Esher, H. A. L. Fisher, Sir Archibald Geikie, A. Hopkinson, and Sir Frederic Kenyon.

or 22 (military exercises, geometry, history, geography, logistics, fortifications, &c.) at a military school. Thence the boys should go, he says, to their branch of the Army, or to the Navy. Finally, higher education would take place at a military academy, of which the professors are the best exponents of the several branches of military works.

We have done more than attempt to specialize too young. We have made no attempt to differentiate the subjects of instruction according to natural aptitudes. It is a commonplace that if we wish instruction to take root and bear fruit, the pupil's interest must be excited. Still more is this important in the broader field of education. We should therefore see that every inducement is given to finding out and encouraging the development of the natural aptitudes of a boy before he joins, and allow his education in these subjects to be carried as far forward as it is possible for it to be. This will have a real effect in developing his mind, and a practical use in providing a subject to which he can turn at later times, or which will furnish him with foundations upon which to build up other knowledge of value to him as a sea-officer.

Having thus laid down guiding principles as to what we want the boy to know when he enters, coupled with an opportunity afforded to him to develop along the lines of his natural inclination and talent, we are in a position not only to arrange a test for his entry but also thereon largely to base our decisions as to the age at which he shall enter—that is to say the age at which he can master the assigned minimum in subjects which will develop his mental powers by following out subjects of his own choice.

Next, there is what (for want of a better word) has been

called his 'moral' education—the development of *moral*.¹ This includes instilling in the boy the officer-like qualities, attributes, and spirit. He has to learn the real meaning of discipline and subordination, what it is, why it is needed, how it is developed and how grossly it may be misused by bad officers. He must learn about his future duties and responsibilities, both with respect to himself and towards those who will come under him: the need not only to be able to perform the duties of his subordinate rank, but also continuously to prepare himself for the assumption of those of higher rank if fortune gives him promotion. Hence the need for continual self-education by reading and study. It is insufficient to imbue him with pride in the past achievements of the Navy, if he is not taught at the same time that it rests with him to repeat those achievements, and that this can only be done by a life of self-abnegation, industry, and devotion equal to those of the great men of the past. He should know that to read and know about Nelson, to wear his portrait on his cabin wall is the shabbiest insult to the hero's memory if no effort is made to master and to apply the lessons which the careers of Nelson and his like furnish.

Next to general education and moral training comes the subject of seamanship, which must always be the pre-eminent subject for a seaman. A platitude this, it may be said; but it is a subject far from being pre-eminent in the courses of education as prescribed at the colleges at the present time, as any one, who has examined either the syllabus, or conducted the examination of the young officers themselves, will readily testify.

¹ A word for which the spelling 'morale' is much in use: though for what reason I am unable to say; certainly not a philological one.

'Seamanship' may readily be divided into two parts—theory and practice; or, if we prefer the words, into its science and its art. Under the former heading come the theories of navigation, of tides, of magnetism as applied to the compass, of stability as far as it affects ship construction; the systems of buoyage and lighting, astronomy, the care of chronometers, the effects of rudder and screw upon a ship, the rules of the road, and the basic principles of the organization of a ship's company and of signalling. Under the heading of practice, or art, come the work of navigating and pilotage, of fixing the ship by various means, of making surveys, the use of the various instruments used in navigation, the various methods of making signals, the practical handling of a ship or boat, the working of anchors, cables, derricks, hawsers, splicing, coaling ship, and other operations of a like nature. It embraces above all the making of a professional seaman who, through constant familiarity with responsibility in charge of the deck, feels at home on the bridge in any circumstances, and instinctively knows what to do and how to do it in all the multitudinous situations in which a seaman may find himself. That is what we call sea-sense; and that sea-sense can be acquired in one place only—at sea.

Gunnery may be similarly subdivided. Under the heading of theory there are the tactical requirements of modern gunnery, theories of ballistics, sighting, deflexion, mean errors, &c., theory of fire control, director, direct and indirect firing, spotting: knowledge of the treatment of properties of explosives, precautions needed in their stowage, together with an outline of their manufacture, though only in so far as it is needed to under-

It is useful only to supply a starting-point to that limited number of officers whose talents lie in that direction, and who may later supply the experts referred to above, but who, in any case, will require a far more scientific course at a later time. On the practical side is the training of the gun's crew, the maintenance of the gun, the actual spotting and control—in fact, all that goes towards the perfect *use* of the gun against the enemy. In so far, also, as seamen are occasionally required to land to assist operations on shore, a practical knowledge of handling a company of men, using small arms, defence and attack of positions is required of them.

The word 'torpedo' is used to include all weapons connected with under-water warfare. On its theoretical side this includes a knowledge of the various kinds of torpedo, fixed and moving, and all that appertains to their use: in practical work, the actual use of the torpedo, the training of the men forming the torpedo complement, the laying and destruction of mines, the weapons used in attack upon submarine vessels.

Through the manner in which electricity has been introduced and developed in the service, it has resulted that electrical work, of which the care of the electric lighting and communications of the ship forms the largest part, fell to the torpedo officer. There was no logical reason why this should have been so. The work is in its essence electrical engineering and bears no relation either to the handling of the ship or to her offensive functions, and therefore is not a duty of the fighting sea-officer. In so far as the gunnery or torpedo officer may have electrical machinery in some part of the armament with which he is connected, electricity plays some part in his work, and he

requires such knowledge of it as will enable him to avoid using his weapons in such a way as to injure that particular machinery. Electric lighting and the sources of electrical supply should, however, no more form a part of his charge than the boat-hoisting machinery forms a part of that of the ordinary deck officer who has to use it. Boat hoists and capstans, whether steam or hydraulic, continue to be in the care of the engineer officer, though it is the deck officer who uses them; and the electrical installation, except that part of it which is directly employed in the service of the armament, the gun, submerged tubes, or searchlight, is properly in the care of an engineer officer, leaving the fighting sea-officer to confine his work—and there is plenty of it—to the duties immediately concerned with sea fighting.

In the same way as the subjects of seamanship, gunnery, and torpedo are thus capable of being subdivided into their theoretical and practical, or scientific and artistic, sides, so also is tactics. On the scientific side we have the general principles, upon which tactics are based, whether fighting is ashore or afloat, in fleets composed of galleys, of sailing ships, or of modern vessels: the use and combination and co-ordination of all arms, and all types of vessel, the principles of command, and decentralization of command; the doctrines of economy of force, of the offensive; the importance of individual initiative and the use and abuse of signals. On the practical side are the actual practising of sea fighting so far as it is possible to represent it in peace exercises. In this is not included those barrack-square movements, those alterations of course in succession, which have improperly been dignified with the name of 'tactics' to the complete ruin of all

real tactical thought. Those essential exercises come more properly under the heading of seamanship. They have a very distinct value. They practise the officer in handling his ship, then develop his eye and his nerve, and accustom him to the signals. But they are no more 'tactics' than are forming fours or marching past a saluting post.

Strategy is very largely a theoretical or scientific subject, demanding intense sustained study. In manœuvres at sea it is possible to reproduce on a small scale a situation in minor strategy, but as a general rule the time available for manœuvres is too short for a situation to be sufficiently developed to afford strategical lessons. These minor strategical exercises are, however, of value, provided too much is not attempted, nor sweeping conclusions drawn from data which, from their nature, must of necessity be incomplete. They furnish, however, excellent opportunities for testing staff work—a branch in which the Navy has been backward, as ambiguous orders, ill-written reports, and unnecessary signalling have frequently shown.

A knowledge of strategy cannot be derived merely from a course of lectures. Certain principles can be educed; examples of those principles and of the effect of neglect of them can be used to illustrate them; campaigns can be studied. But no course could be so long as to produce a man who could truly be termed a 'strategist' merely by listening to other people talking.¹

¹ 'Few people are more positive or more certain that they are right than those who try to teach strategy or tactics. The dogmatism of the professor is intensified when he wears a uniform instead of a gown. . . . *The aim of every teacher of strategy or of tactics should be to get students to think for themselves.*' (Admiral Sir Cyprian Bridge, *Papers on Naval Subjects*, 1901-4, Admiralty Library, E.b. 93.) With every word of this I fully agree. H. W. R.

A science teaches us to know, and an art teaches us to do. Strategy partakes both of science and art. In so far as it is a science, it is a subject of which a man must be taught the basic principles, and then, knowing how to study, must study for himself: for no one ever arrives at knowledge except by hard individual study. In so far as it is an art, it consists in having the true principles at the fingers' ends, and the character, power, judgement, and determination needed to apply them: of possessing, in fact, not only certainty of judgement so far as it is humanly possible ever to be certain that one's judgement is correct—and justified by the self-confidence which knowledge alone gives—but also quickness to decide upon, and determination to persist in, a course of action. The habit of quick decision is cultivated by responsibility in command, but the habit of correct judgement is the result only of education. There is, indeed, a great likeness between strategy and surgery. Surgery is both a science and an art and is so described in its text-books. Years of study of the human frame and the functions of its different parts form the science: deft manipulation constitutes the art. The making of the diagnosis is dependent upon the former, the successful execution of the necessary operation upon the latter. Swift decision, based upon certainty of judgement, and determination in carrying it through, are essential characteristics of the great surgeon.¹ So must they be of the great strategist, upon whom not only the lives of single or even of a succession of patients will depend, but the life of a Kingdom or a Commonwealth.

¹ Admittedly, the analogy with the surgeon may be carried too far. Said Talib, a claimant for the throne of Iraq, once remarked: 'What is needed in this Administration is *experience*. I have it. A doctor before he learns his trade will kill at least 200 people—I've killed my 200.'

We have now made a rough review of what the military sea-officer's education is intended to produce. We can see that the subjects in which he must be proficient have each their theoretical and their practical side, and this brings us to the point previously referred to, the 'when, where, and how' instruction and training in the various subjects shall best be conducted in order that time and place may be used to the utmost advantage. As the 'when' affects very considerably the matter of selection of candidates, we must next examine this question.

SELECTION FOR ENTRY

THE changes in the constitution of society, embraced within the term 'democratization', have their effect upon the Navy. The highest offices in the Army, the Civil Service, the Law, the Church, Medicine, and Parliament are open to every individual in the country who can show himself fit to occupy them. The right of every individual to compete for the prizes in the public services is no less undeniable than the fact that capacity is not confined to any stratum of social life. The great offices of Roman Emperors, Cardinals, Generals, Chief Justices have been held with distinction by men of 'obscure and abject birth' like Diocletian, Alberoni, Murat, and Charles Russell. In the recent War high appointments in many armies have been open to any man provided he could give evidence of the possession of the necessary qualification of character, skill, and knowledge. Joffre was the son of a cobbler.

'Many instances could be quoted', said Field-Marshal Sir Douglas Haig in his final dispatch, 'of men who from civil or comparatively humble occupations have risen to important commands. A schoolmaster, a lawyer, a taxicab driver and an ex-sergeant-major have commanded brigades; . . . the under-cook of a Cambridge College, a clerk of the Metropolitan Water Board, an insurance clerk, an architect's assistant and a police inspector became efficient General Staff Officers; a Mess Sergeant, a railway signalman, a coal miner, a market gardener, an assistant secretary to a haberdasher's company, a Quartermaster-sergeant and many private soldiers have risen to command battalions; clerks have commanded

batteries; a schoolmaster, a collier, the son of a blacksmith, an iron-moulder, an instructor in tailoring, an assistant gas engineer, a grocer's assistant, as well as policemen, clerks and privates have commanded companies or acted as adjutants.'

Thus all ages furnish the lesson that power of command, capacity, and leadership are neither the privilege of birth nor the result of mere knowledge.

It may be felt that if soldiers in the past and present could rise from the ranks so also should seamen be able to do so to-day;¹ and that a channel was lately furnished by the 'mate' system. Taking the last of these first, it is to be observed that the mate system affected only men who had already entered the Navy, rarely extended promotion to the highest ranks, and, above all, did not furnish an education fitting those officers for the duties of high command. And, even if the highest ranks were open, these officers would start at a disadvantage of age and seniority, *vis-à-vis* those who entered as cadets, of not less than four or five years, possibly more. The method of selection for mates was open to much criticism. Experience had shown that by no means the pick of the service obtained preferment. It had even happened that men who failed for warrant officers have been advanced to mates.

So far as the comparison with seamen of the past is concerned, there is an essential difference between the

¹ I allude to *soldiers* in the past only, for the cases of seamen rising from the lower deck are very rare. The names of Myngs, Shovell, Narborough, and Benbow are often introduced into arguments for promotion from the lower deck; but none of these really rose in that way, with the possible exception of Benbow, whose origins are doubtful. The first three were all men of well-to-do stock who were advanced by their patrons, sometimes their kinsmen: and Benbow obtained promotion from master's mate by his exhibitions of courage in action, which was the only possible means of exhibiting a superiority over the common run of men.

conditions of a seaman's life and experience of the old times and to-day. In the period of sailing ships, the seaman was not only a technician, knowing how to bend, reef, splice, and steer: he could become also a competent seaman in the art of seamanship, he could tack and variously handle a ship. To-day, the training and experience of the 'seaman' is nearly entirely confined to matters of mechanical technique, and, paradoxical as it may appear, the more able a man is, the less chance he has of becoming an expert *seaman*. The ablest and best educated men, those whom we should most wish to advance, become gunnery and torpedo specialists, whose work lies in the turrets or among the electrical machinery in the bowels of the ship. As they do not come near the bridge, and rarely become coxswains of boats, they get no real experience of the art of *seamanship* in its most important branch—keeping a watch and handling a ship or boat. Their duties are, in fact, of a wholly different order from those of the officer who takes command of a ship. Such knowledge of navigation as they may acquire is book knowledge only, not practical, and is of correspondingly little value. The seaman who most nearly approaches the officer's standard as a 'seaman' is the quartermaster; and, as every navigating officer knows to his cost, quartermasters have only too commonly been selected by the executive officer from men who are not wanted for other employments. Even, however, in their case, experience is confined to taking the helm; they are not in charge of the ship, and they miss, therefore, the most important of all factors in development—*responsibility*.

There is, thus, a definite obstacle to regular promotion from petty officer to sub-lieutenant or lieutenant. The

lieutenant must be a *seaman*. The petty officer is not a seaman. He is a gunner or a torpedo man. His seamanship is not the seamanship of an officer. He is not trained to keep watch, and he cannot learn how to do so at Greenwich or out of a book. Such training takes time—years—and, however proficient and intelligent a man may be, he cannot be suddenly taken from the care of the electric light system or the charge of a turret and put on the bridge of a battle cruiser going down Channel on a dirty night. Neither six months nor ten times six months at Greenwich learning 'navigation' will produce a 'seaman'.

Therein lies a fundamental difference between the Navy and the Army. The duties of the non-commissioned officer are of the same order as those of the commissioned officer. Both have to handle men; both must know the principles of field tactics; one can, within limits, replace the other. The corporal or sergeant learns to handle bodies of men, the units he has to manœuvre; the petty officer does not learn to handle the ship, which is the naval unit. Nor does he learn anything of tactics. Thus the parallel drawn between them falls to the ground. It is true that warrant officers and mates are to be found keeping watch in small craft and that, after a period of probationary training and instruction, they can do so; but they are rarely found on the bridges of battleships, and, as has been pointed out earlier, there are limits to their advancement, and they attain the position so much older than officers who are trained as officers from the beginning that, in any case, their prospects of reaching high rank are diminished by age. Nor is it easy to make selection younger, for until a man has had time and opportunity to show his capacity he cannot become either a petty or warrant officer, and

his capacity cannot be judged until he has held at least the rank of leading seaman for some time.

Examinations are no test whatever, although a regrettable tendency so to regard them is to be observed to-day, particularly in the very ill-judged scheme recently introduced for entry from the lower deck. They may be used as one means of selection, provided proper safeguards are taken that character and capacity come first.

If, then, the claim that the highest ranks in every profession should be open to every one of whatever birth is justified, some other channel must be furnished. A proper initial training must be given to all who are considered fit to undergo it. That is to say, the system of entry must be of a kind which shows no favour to any particular class of the community.

An early age of entry unquestionably favours those who have the advantage of good surroundings as children. Competitive examination at the age of 13 has been unanimously condemned, so that the means adopted in all other public services is barred if entry is made at that age. The alternative which has been adopted is the method of 'interview'. It can hardly be doubted that a boy of 13 who comes from a 'good' home, who has been brought up among superior surroundings, who has had the discipline and training not only of the home but also of the preparatory school, and who can express himself with some correctness of accent, is farther on his way in the making of an officer than one who has not enjoyed these advantages. A selection committee of educated men (and I assume that selection committees would be so composed) can hardly fail to select such a boy in preference to another. A committee, in its few minutes of interview,

must make its selection, largely by appearances, and while it may choose young 'A' in preference to young 'B' because he is obviously better brought up, it may reject that puny lad with a strong Norfolk accent, Nelson, that mild lad with an unbecoming wart on his upper lip, 'Ovicula' Fabius, or that chinless, weak-looking youngster, Wolfe.

Postponement gives the schoolmaster, who of all people has the best knowledge of a boy's character, longer in which to form his opinion; and it gives time for all who are fit to have reached the standard of general education required of an officer of the Navy. All can compete on equal terms. *The requirements of the officer and the needs of the State, not the advantage of a class of society, can, at that age, be made the criterion.*

If, then, we are to meet the demand, if that demand exists, that every citizen should have a right to present himself as a candidate for officer's rank in the Navy, that all who compete should do so upon level terms, and that entry should be made from those who can show the highest mental and moral attainments, it becomes upon all counts necessary to defer the entry until the mental and moral qualities have had time to develop.

VI

AGE OF ENTRY

IT may be safely asserted, as a general proposition confirmed by all the officers who have studied the question, that a sea-going ship is a bad place for theoretical instruction. Although there are men whose temperaments enable them to apply themselves to study in any surroundings and under any conditions of discomfort, these form a very small proportion of the run of ordinary people. The places available for study, the distractions and interruptions, the heat in the tropics (who can imagine himself putting out his whole mental energy in the rainy season on the coast of Africa?), the atmosphere of between-decks at sea in bad weather—all of these are inconducive to mental effort. Admiral Darrieus remarks that it is ‘de notoriété publique, (que) des conférences fait à bord d’un vaisseau naviguant ont eu toujours une influence soporifique et n’ont jamais donné, par conséquent, qu’un rendement médiocre’.¹

The benefit of sending a young officer to sea is that he is introduced early to the practical performance of his duties. This, however, he cannot do if he is to be a school-boy throughout the best hours of the day. Such work, therefore, as may be classed as ‘theoretical’ is best learned in a place suitable for study; that is, ashore. Such work as is ‘practical’ is best learned in its actual performance, that is to say on board a ship. A broad general division can thus be made, and the principle established, that

¹ (*La Revue Maritime*, Sept. 1921, p. 309). How often have many of us succumbed to this ‘influence soporifique’?

theoretical work should be learned on shore, practical work afloat.

Next, which of the two should precede the other? Should the boy go straight to sea and learn his practical work, coming ashore later for the theory, or should he learn the theory before coming to sea and perfect himself in the practical work afterwards?

If we examine the custom in other professions we find that theory precedes practice, and as practice is based upon theory this is surely a rational proceeding. This is not to say that in all affairs of life theory precedes practice. The opposite is often the case. The savage throws a stone without knowledge of gravity. But when a profession has developed, its theory is first taught. If we start a boy upon his career with a good groundwork he will proceed upon his practical life under the most promising conditions, since he will understand the why and the wherefore of the things he is doing. Before, therefore, a boy comes to sea he should be instructed in the 'theoretical' side of all the work in which he will have to take a part.

It is, however, of importance that the age of going to sea and of taking up responsible work should be deferred no longer than is absolutely necessary. Whatever may be the case in other professions, the sea-officer requires to begin his work comparatively young. The making of a thorough seaman takes time, and can only be done at sea. We do not desire to have to wait until a man is well into the middle twenties before he is considered fit to take a watch or command a torpedo boat.

Moreover we want our officers to make up for such lack of general education, which a comparatively early finishing of the ordinary civil education involves, by that

other form of education which is the result of travel, of knowing the world, of seeing and mixing with men of all kinds, and of *doing* things. For these reasons the theoretical education should be limited in its initial stages to that which is required of the young officer in the *early* stages of his career—that is to say, that part which is concerned with seamanship, gunnery, and torpedo work, and with only a minimum of the higher side of his profession, sufficiently to indicate what more lies before him and induce him to turn some of his attention to it. How it is proposed that this should be done and the limitations required will be indicated later.

The work, then, which must be done before the boy goes to sea is that connected with his general education, his moral training, and the ‘theoretical’¹ side of seamanship, gunnery, and torpedo.

To form an opinion on this matter demands that we shall first make certain whether it is more advantageous that the boy should come under purely naval influences as early as possible, or that he shall remain as long as possible under the same influences as those of the general run of youngsters in the country. Is it more advantageous to the country, and to the individual, that he shall spend his time in a naval or a civil school?

From the point of view of finance it is to the advantage of the public purse that the expense of education shall fall as lightly as possible on the State. That this shall be so requires a late age of entry following a private education. On the other hand, if the net is to be widely thrown,

¹ ‘Theoretical’ is an unpleasant word to use in relation to seamanship. As the theory of the Rule of the Road can be learned by the lawyer, for want of a better it is here employed to represent that part of seamanship that can be learned from books.

it may be thought desirable to relieve parents as far as possible of the burden which many might not be able to bear: and from that point of view, early entry into the college with low or no fees (as at West Point) is called for. The connexion between expense and the method of selection, referred to earlier, will be obvious. Where, however, issues of such importance to the country as the method of producing the most efficient naval officer come in, expense will not stand in the way. But we do most certainly require to be assured that the expense is justified.

Questions of expense, except in so far as it may affect policy, are, however, capable of adjustment. What is fundamental is that the time should be passed in those surroundings and under those conditions which will be of greatest advantage to the Navy, and, consequently, to the country. Therefore, it is from the standpoint of the boy's general education and of the development of character, rather than from that of expense, that this question should be approached.

So far as general education is concerned, a naval school presents no advantages over a civil school. Mathematics, history, foreign languages, science, English literature, are all subjects of instruction at the civil schools of the country, and there is every reason to think that they are as well taught there as they can be at any naval school. So far as character is concerned the schools of the country, particularly the public schools, have a record which is unsurpassed by those of any country in the world.

Professor John Burnet in his *Higher Education and the War* and Sir Douglas Haig¹ in his final dispatch may be cited in support of this view. Sir Douglas said: 'Our

¹ As he then was.

universities and public schools throughout our Empire have proved once more, as they have proved time and again in the past, *that in the formation of character, which is the root of discipline, they have no rivals.* It is to be observed that although we enter boys young, and keep them for four years at the naval college, it is considered necessary to send them later on to a special school to be taught 'discipline'. Could anything be more wasteful!—or foolish.

There is, therefore, nothing to be gained in the interests of the general education, or of character, that boys should be taken from a civil to a naval school at an early stage.

There remains the factor of building up a type of officer, and of producing cohesion in the service as the result of common views. Is it an advantage to have uniformity or diversity of type? If uniformity is an advantage, then the boys should be brought under naval influences as young as practicable. If, on the other hand, diversity is more advantageous, the age of entry should be deferred in order that as many different outside influences as possible may make themselves felt in the service.

In the opinion of the writer, uniformity of type and mentality is a disadvantage, whether we consider the Navy by itself or human affairs at large. Diversity of type is at the root of the progress of the world. If we look at the world at large it is impossible not to see how crippled human progress would be if the human race were composed of people of one nationality only. Each race has its characteristics, and the development and exercise of those characteristics is essential to the good of the whole human race. In each and several communities we receive the benefits of different points of view, the result of different

mentalities, producing different ideas. This is not a weakening, but a strengthening of the human spirit. In our own Empire we have an example of this. Thus, Sir Charles Lucas writing of the Australian says:

‘He is an Englishman who has grown at will with ample elbow room *and has not been trimmed and pruned in a confined area and an ordered place*. He contributes to the British Empire a citizen of British race, but a somewhat different type from the resident in the United Kingdom. *It cannot be doubted that this different type makes for increased vitality of the Empire.*’¹

The same writer also answers the question of cohesion in a body, as a result of common views.

‘At first sight it would seem that the more uniform in type communities are the more likely they are to cohere. But, judging from private as well as from national life, it may be questioned whether cohesion is not more likely to arise from supplementing than from duplicating. Within limits there is less probability of friction between those who have points of difference than between those who are in all respects the same. In the latter case there is at best wearisome iteration; in the former case one supplies what the other wants.’

In throwing our net wide we shall embrace not only the different types of public schoolboys, but the type also of the boy who does not go to the public school. And it is desirable to do so. There are certain fundamental differences between the boys, which were observed by officers who had the absorbingly interesting duty of training officers for the new armies in the late War. Among these young officers were young men of every kind—public, grammar, and secondary school were all represented and

¹ *Greater Rome and Greater Britain*, p. 19.

a verdict given to the writer ran on these lines: The public schoolboy had the higher sense of honour, the other the more industry. The public schoolboy used the worse language, a puritanical spirit was more characteristic of the other. The public schoolboy had a sense of the team spirit, of playing for his side, the other thought more of himself and playing for his own hand.

Thus on each side there are good and bad points. We need a high sense of honour, but we need also the industrious man. The team spirit is at the bottom of all successful co-operate effort and is essential in a fighting force; but the true individualist will be the man who strikes out a new line, is self-reliant, and does not bow unduly to convention. A merchant in a large concern said some years ago that he made it a point to form the staff half of the one and half of the other: each imparted to the office some of his good qualities. There is a shrewdness in this that we at sea should not lose sight of.

If, then, by entering boys young we do not necessarily increase the bond binding together the officer corps by straining after one uniform type, but produce instead 'wearisome iteration' only; and if on the other hand a man who has not been 'trimmed and pruned' in an ordered place develops into a different type which makes for increased vitality in the community to which he belongs; and if we miss the diverse and valuable influences of different upbringings; then assuredly there is a strong argument against bringing boys under an influence which tends to produce those very defects, and in favour of a system which, so far as other circumstances admit, tends to the production of diversity of type.

In reply to this it may be argued that in the navy of the

past we had proof of the benefit of entering boys young, the proof lying not only in the fact that it was the invariable custom, but also in the results—our victories at sea.

So far as it was the invariable custom, the statement is not historically correct. This was clearly shown in an article by Admiral W. H. Henderson and Dr. Gray in the *Fortnightly Review* for April 1914 and an historical abstract of ages of entry into the Royal Navy prepared in the course of their investigation.

By this we see that in the old wars the age of going to sea was governed by the age at which an officer was considered fit to hold a commission and the length of experience necessary to fit him for his duties. From 1677 to 1703 a lieutenant could not be made under 20, and needed three years' sea service. This permitted boys to go to sea at 17. In 1704, four years' sea service was required, the lowest age for lieutenant remaining at 20, thus allowing boys to go to sea up to 16. While, however, these were the regulations, we have examples that they were not carried out in practice.

When the Naval Academy was started in 1729 a flexible age of entry of from 13 to 16 was introduced, together with a variable length of 2 to 3 years at the College. The minimum of age of 'collegians' on going to sea was thus 15, the maximum 19.

After the peace (1816), entry to the College was brought down to $13\frac{1}{2}$ –14: in 1821 it was further reduced to $12\frac{1}{2}$ – $13\frac{1}{2}$, together with a two years' course. In 1837 the College was abolished on account of

- (1) the inconvenience caused by the triple system of entry (direct, volunteer, and college);

- (2) jealousy between collegians and non-collegians owing to favouritism shown to the former ;
- (3) the fact that non-collegians, many of whom entered at a later age, beat the collegians and proved better officers.

It was then decided to trust to direct entry ; the minimum age was placed at 12, and though there was no upper limit, 16 was considered as the maximum ; though it is clear that it was not strictly adhered to.

In 1857 this system was abolished, after 20 years' experience, on account of the unsatisfactory conditions it entailed of combining scholastic with professional training. The *Britannia* was established with the definite object of avoiding this undesirable combination and completing scholastic education before going to sea. This, however, it failed to do, for it is manifestly impossible to complete a youngster's education at the age of 15 ; and this was recognized very soon. Admiral Sir Thomas Cochrane, giving evidence before the Select Committee on the Admiralty in 1861, remarked, 'If a boy comes, as he ought to do, properly educated, he ought to go to his ship at once, and there he learns the professional part of his business. *Having learnt the theory, I would let him go to sea and learn the practice.* . . . I am looking to your getting educated men for the service, *which you really do not now.*'

Until 1888 this scheme continued in spite of these and similar criticisms, but the tendency was to increase the age of joining the sea-going ship. By 1897 the maximum age had reached 15½, a lower age, it should be remarked, than it had been for the 173 years between 1676 and 1849, years which cover the whole period of our great wars.

Turning from the claim of custom to the claim of facts it is usual for the names of men like Nelson, Rodney, Collingwood, and other great commanders to be quoted as evidence of the necessity of being sent to sea at the ages of 12-13. But either it is not known, or it is forgotten, that many officers of great merit went to sea a good deal later. The Duke of York went to sea at 16. Lord Torrington (George Byng) went at 15, but for a short time only, after which he served in the Tangier garrison, and did not go to sea again until he was 20. Boscowen went to sea at the age of 15, Hood at 16, Vernon, educated at Westminster and Cambridge University, went to sea at 17. Sir John Borlase Warren, a Winchester boy and scholar at Emmanuel College, Cambridge, remained there till he was 17½, but did not go regularly to sea till he was past 18. That great fighter Lord Cochrane was 17½, and Sir Francis Geary between 17 and 18, when they first embarked. Sir Edward Rotheram, Collingwood's flag-captain at Trafalgar, went to sea in the Merchant Service at the age of 17 and did not join the Royal Navy till he was 24. In the young American Navy the officers joined at very various ages. 'Commodore Jacob Jones, after practising medicine and beginning a legal career, became a midshipman at 30. James Lawrence received a warrant at 16, Thomas Macdonough at 17, David Farragut at 10.' Decatur entered at 20, while on the other hand Bainbridge went to sea young in a merchant ship and became first mate at the age of 18.

To pass to more modern times, Sir George Tryon, one of the most outstanding figures in the Navy, was at Eton till over 17 and was over 18 when he passed for midshipman. 'His age', says his biographer, 'gave his

steadiness and application.' The German admirals of the late War, Von Scheer, Von Hipper, Von Spee, who showed ample skill as commanders, joined their Navy at the age of 19.

To these might be added those admirals of the Commonwealth and Stuart times, Monck, Rupert, Blake, and Sandwich, who went to sea in middle age and nevertheless showed strategical skill and tactical address of the highest order. But the conditions of that age were so different from those of more recent times that it may be considered that the evidence they gave of efficiency at sea cannot be taken as applicable to to-day.

These men notwithstanding, the fact remains that the great majority of British sea-officers went to sea much younger. There must have been a solid reason for it. What was it? The reason given to King George III, when he inquired into the question was that, 'All the sea-officers I have ever consulted as to the proper age for sending young people to sea have concurred in the opinion that 14 is as late as *so hardy a profession* can be embraced with the smallest chance of success.'¹ That reason, however, does not appear to have been universally accepted. The biographer of Sir George Collier,² remarks that 'Sensible of the loss he sustained in his education, he applied himself assiduously to supply the defects occasioned by the early period at which Naval officers are—*alike injuriously and unnecessarily*—obliged to go to sea', and made himself an accomplished scholar. But in any case the reason of the hardship of the life, however apt it may

¹ The King to Lord North, 17 May 1779. Fortescue, *Letters of King George III.*

² *Naval Chronicle*, vol. xxxii, p. 394 (date, 1814).

have been in the early part of King George III's reign, is a reason which does not exist to-day when nothing that can be called 'hardships' are experienced.¹

In the face of such evidence it is difficult to see how it can be argued either that it is indispensable for a boy to go to sea young, or that the custom of doing so was invariable in the past.

If we look, however, at the training those boys underwent we do not find them passing a long period in a machine stereotyping their characters in uniformity—that uniformity so much praised by many of those who support early entry. On the contrary, their training tended to produce diversity of type, and how diverse, every student of the characters of the great seamen of the past is well aware. Some went to sea direct, some after a training at a naval college. When they got to sea they served in every type of ship; and there was far more difference in the organization of ships in those times than there is to-day. There were no regular routines, established watch and quarter bills, drill days and general quarters days; nor were there regulations ordering every minute of time and every act performed. Their views were undoubtedly moulded by the ships in which they served, and the youngsters were scattered in many types of ships, from brigs to ships of the line. In these ships they served as *officers*. Nowadays they go only to the largest vessels, where their employment consists of some form of instruction in the forenoon; and at other times watchkeep-

¹ Admiral of the Fleet Sir Edward Seymour said: 'I am sure that sailors should be caught young; the sea is a profession to be as far possible bred to, or *its discomforts, and still more the confinement of life on board ship, are very distasteful.*' (*My Naval Career*, p. 416.) They can only be bred to the discomforts at sea, not in a shore college.

ing—which largely consists in some ships in running messages for the officer of the watch—and making periodical trips to the shore in command of a steamboat; though this last is not permitted during school hours in many ships for fear that instruction should be lost.

While these occupations do nothing, or at most very little, towards the making of an officer, and afford no justification for the claim that boys must enter young because they entered young in the past, the occupations of the midshipmen in the old days were as diversified as it was possible to be. Howe, as a youngster, sets off with Anson in his voyage round the world. Nelson serves in a West Indian merchant ship, where whatever traditions he learned—and much stress is laid to-day on the importance of imbibing the naval tradition at an early age—they were not those of the Navy.

‘From this voyage I returned to the *Triumph* at Chatham in July 1772: and if I did not improve in my education I returned a practical seaman, with a horror of the Royal Navy, and with a saying then constant among the seamen “Aft the most honour, forward the better men”. It was many weeks before I got in the least reconciled to a man-of-war.’¹

He then has a spell in a cutter at Chatham where, as he says in his short autobiography, ‘by degrees I became a good pilot, for vessels of that description, from Chatham to the Tower of London, down the South and the North Foreland, and confident of myself among rocks and sands, which has many times since been of great comfort to me’. Afterwards he takes part in a Polar expedition, and this is followed by a three years’ commission in the East Indies.

¹ *Sketch of My Life.*

All this was before he was 18 years old. What a wealth of training this represents! What a diversity of occupation and experience! In fact, what an *education*! How is it possible to affirm that because a system of early entry in such circumstances of employment produced fine sea-officers, a similar age of entry under wholly different circumstances, omitting all those factors of responsibility and experience, will do só? It is not the age at which a boy begins his career that matters, but the manner in which he passes his time when he has entered.

The factor of responsibility is most important. It is claimed by some that an officer should not go to sea later than the age of 16 or 17 on account of the need for assuming responsibility young. The assumption that the sea is the only place in which habits of self-reliance and responsibility can be cultivated is not borne out by facts, even were it a fact that the boys who go to sea at that age are given anything worth calling responsibility; which they are not. In everyday life we see young men in the army who did not join their regiments until the age of 19 taking great responsibilities. We see young soldiers and civilians administering territories as large as an English county—nay, larger than many English provinces—in the East and in Africa, at an age when a lieutenant in the Navy is hardly allowed to undertake the duties of a commanding officer of a ship.¹ We see officers joining the Army after a University education and not failing in taking responsibility—the Commander-in-Chief of the British Army in France was an Oxford man who did not join the Army until the age of 24. Was

¹ There is no more common complaint that even lieutenants are not allowed to have real responsibility in many of the large ships.

Cochrane, who went to sea at over 17, ever afraid of taking responsibility? Were Cromwell, Lord Lynedoch, Blake, or many others in wars of the past, or Tryon or Von Scheer to-day, who embarked on a military career later in life, lacking in the power?

It will readily be granted that it is an advantage that this burden should be undertaken young; but the question is whether it is practicable to combine this opportunity with the scholastic work required under the conditions of to-day. Certainly responsibility of the same searching kind is not possible and, so far as the Naval College is concerned, the senior cadet does not hold a position of the same sort or degree of responsibility as a public schoolboy in the sixth. When he goes to sea he still has little real, searching, responsibility. In the past it was possible to place a very considerable amount of responsibility upon young officers—how often in the many naval memoirs do we find a midshipman of 16 or younger sent away in charge of a prize. But, even then, when so many went to sea young, it was too often found that as seniors they would not take responsibility. John Byng, himself the son of a great sea-officer, would not take it. John Forbes, notwithstanding his fine character, would not haul out of the line at the battle of Toulon. We see the captain of one of the leading ships in that same action turning to his first lieutenant and saying he is puzzled to know how to act 'to avoid censure'—not, be it observed, how to act in the manner best calculated to beat the enemy. Even great Hawke himself did not at first take the responsibility of breaking the line; and, at a later date, in spite of so many of the officers having begun their sea life early, we find St. Vincent writing, 'How unfortunate it

is that the fine gallant fellow whose letters I enclose, sinks under responsibility; *which, in truth, I have found to be the case with almost every valuable officer in the Navy.* Boscawen was an exception to it.¹ Boscawen, it may be remarked, was one of those who went to sea at 15.

Going to sea young is therefore not an infallible medicine for the disease of fear-to-take-responsibility, nor is a late entry into life a fatal bar to responsible behaviour. In some men the power is innate. In the transcendent genius Nelson, who went to sea at 12, it shines with surpassing brilliance. It shines in Farragut who went to sea at 10, in Rodney and Jervis and Collingwood who went at 12 and 13, and Suffren who went at 14. But there was no lack of it in Hood, Vernon, and Dundonald who did not go until they were from 16 to 17½. Apart from this inherent quality of great men, the power of taking responsibility does not depend upon the age at which a boy joins a naval college or a sea-going ship, but upon the manner in which he is employed when he gets there. 'The policy', reported Sir Douglas Haig, 'of putting complete trust in subordinate officers, and of allowing them a free hand in the choice of means to attain their object has proved most successful. Young officers, whatever their previous education may have been, have learnt their duties with enthusiasm and speed, *and have accepted their responsibilities unflinchingly.*' If a youngster is given no responsibility he will not develop the qualities of initiative, decision, or power of command. If he is given it, he will.

¹ St. Vincent to Lord Howick, 1806 (Tucker, vol. ii, p. 275). St. Vincent indeed frequently deplores the tendency of senior officers to avoid responsibility. (*Spencer Papers*, vol. iv, p. 3.)

Treat him as a responsible person and he will become one, says Lowell in the *Biglow Papers*:

Ole Uncle S, sez he, I guess
It is a fact, sez he, .
The surest plan to make a man
Is, think him so, J.B.,
Ez much ez you or me!

This, too, was Lord Cromer's plan—'think him one'. Writing of the young military officers whom he employed on civil work in Egypt this great man said:

'I doubt if any country in the world can dispose of agents who are their equals. They certainly cannot find their superiors. . . . When once they are taken away from the routine of the barrack yard, given some interesting work to perform, made responsible for the proper performance of that work, and left a good deal to themselves, they speedily develop that power of government, which, I trust I may be allowed to say, without incurring a charge of undue national pride, is the prerogative of their Imperial race.'

Our youngsters at sea are the brothers of these young soldiers. Do we give them the opportunity of developing their powers? We do not. Rather, we confine them to the naval barrack yard, give them little interesting work to do, make them responsible for nothing, but keep them under constant instruction and inspection. This is not the way to strengthen their characters; and it is one of the direct results of sending them to sea young with their education so incomplete that they must spend all their time in continuing it on board ship. The very fact that their instruction has to continue at sea makes it necessary that the ship should be a large one; and in a large ship they can have little responsibility.

I have said that boys went to sea early in the past and obtained opportunities of early responsibility. Let us examine this farther, for it will properly be asked why a boy of 12 should not go on board a battleship of to-day and begin his work in the ship as his great-great-grandfather did in a three-decker or frigate.

The answer lies in the difference of the material. In the past the material was simple, not complex. The power of using it required long practice. The principal business of the junior sea-officer was seamanship—for gunnery was in an elementary stage; and seamanship was an art, an art to be acquired by observation, manipulation, experience. Thus, while the young officer required little or no regular instruction in the details of his principal duties, his daily employment afforded him the practice which made him a master of his business. Such instruction as he received was from his officer of the watch on the poop, the boatswain's mate in the waist, the captain of his top, and the coxswain of his boat. His whole time was spent in the practice of his profession, in the performance of the duties of which he acquired the qualities of responsibility, initiative and command. He had little to learn of a scholastic kind outside his day's work; and although some captains were at pains to improve the general education of their midshipmen (as Captain Edward Legge 'looked after' young Howe), such instruction was subordinate to their practical training: and in many cases little or none was given. Lord Collingwood frequently refers to this matter in his correspondence, and complains of the lack of a general education in the young officers. He recommended that they should go to a navigation school *before* coming to sea, owing to the difficulty of giving them a

proper education on board. Admiral Sir Thomas Cochrane emphasized the same necessity. In regard, however, to making a boy a 'seaman', the utmost profit was derived from his service at sea.

To-day, matters are different. He has no masts and sails with the art of their handling to master. He has, on the other hand, much gunnery and torpedo work. Navigation then was a special business of a 'civil' officer, the master. To-day, it is the business of the executive officer. If we should defer instruction in these matters, and a boy should come to sea ignorant of the principles of navigation, gunnery, and torpedo, he must be taught them at sea. They cannot be learned from the coxswain and the captain of the top in casual conversations or crawls aloft. Immediate and ordered instruction must be given, regular classes must be formed, and until his knowledge is well advanced the boy will not be able to take any real part in the work of the ship; hence he will lose opportunity of obtaining responsible work. He will be under instruction, which, of all things, we should avoid, as will be shown later.

As instruction in such matters can only be given in large ships, so the boys must go to large ships, where they are sent in large numbers—in some large ships there are as many as twenty-six midshipmen. It is impossible to give these youngsters proper attention and training. Thus, early entry involves us first in herding the boys together in a college, then, continuing them in large herds still under tuition, in the great ships. Nothing is more repressive to the development of individuality than the herding of a large number of persons together and keeping them under a similar set of surroundings and influences

for a long time. The genius will escape from the thralldom, but he suffers under it, as Byron suffered. The commonplace man finds it suits him absolutely, and the boy who is different from his fellows is to no small extent a pariah. If he would enjoy himself he must conform to the manners and modes of thought of the crowd. With some, the development of individuality is definitely stopped. With others it is checked, though it may develop later when it becomes appreciated that everything does not depend upon unbuttoning the lower button of a waistcoat or wearing the trousers turned up or turned down. But most of us are easy-going and accept conventions, and, beginning by an acceptance of convention in order to save trouble and perhaps unpopularity, or—what to an Englishman of to-day is worse—the fatal brand of being ‘original’, we gradually come to attach to those conventions a meaning, and eventually to pay them a reverence, to which they have no claim. The mind ceases to work. Because things have been done in a certain way, that is the only and proper way. Rigid adherence to custom takes the place of reason, and like the followers of Gustavus Adolphus described by Marshal Saxe, a gradual decline takes place in consequence of ‘blindly adopting maxims without any examination of the principles upon which they were founded’. With all the admirable effect and undeniable benefits which come from a purely public-school education, it also suffers from this drawback. But the naval colleges are public schools in which these effects are exaggerated and emphasized by the influence of a certain type of discipline and of the system on which they are conducted. So long ago as 1871 Captain James Goodenough, in a paper read at the Royal United Service

Institution, remarked, '*I regret the loss of individuality which is inevitable when all young gentlemen are passed through the same course from the age of 12 years*'; and he quoted Captain Sherard Osborn, a most eminent and cultured officer, who advocated that early education should be apart from special training, and deprecated *the loss of individuality* which ensued from long-continued running in the same groove. Of late years complaint has frequently been made that the boys who come to sea under the new system are lacking in initiative. It would indeed be most surprising if they were not; and the more surprising still if they should develop it at sea when they are continually under instruction, spending all the hours of the day in listening to lectures or performing mechanical tasks.

There is, however, one point in which great importance is attributed to early entry—Tradition. Early entry is claimed to be necessary for the instilling into the naval officer naval traditions.

Traditions are of many kinds. There are traditions of behaviour, of discipline, of courage, of loyalty. There are literary traditions. There are traditions of tactics, of strategy, of war. Which of these are those which can be imbibed only at an early age?

The great moral traditions of love of country, subordination of self, loyalty, discipline, and courage are common to all fighting services. The soldier, or the marine officer, who completes his education at a public school, possesses these qualities as fully as the sea-officer. They are indeed, in the words quoted earlier of Lord Cromer, the heritage of our imperial race. As no naval officer would think of claiming for his own service

superiority in these qualities over another service, it cannot be for the moral traditions that early entry is believed to be necessary.

Is it then for tradition in another sense—for learning the tradition of the sea, the story of the fighting at sea? This can hardly be the reason, for but little of it is taught in the naval college. Time does not allow of much instruction in naval history. In the other fighting service, it has not been considered necessary to specialize in military history before the age of 18. Wellington himself preferred that his sons should have 'the education given to English gentlemen' in preference to the more technical education at the Military College.¹

Finally, there are the traditions of tactics, strategy, and war. But these form no part of the curriculum at the college, nor has early entry succeeded in maintaining them, otherwise we should not have witnessed some of the wide departures from traditional principles of strategy and tactics which characterized the last War, and were the causes of so many heavy losses.²

For these many reasons it appears that the system of early entry is not without very patent disadvantages, and that in some respects, and those important, we should offer ourselves a better chance if boys could be taken from many sources. And as there is no advantage to the public in teaching general subjects at a naval school—at the public expense—those subjects which are not strictly

¹ Guedalla, *The Duke*, p. 304.

² All the traditional methods of trade defence—in particular 'cruising' and 'convoy' were thrown aside: and as a consequence the War was within an ace of being lost at sea. Every tradition governing the conduct of 'conjunct expeditions' was thrown to the wind in the operations against the Dardanelles. Even the traditional British way of making war was rejected.

naval, but are a part of an English gentleman's education, should be taught at the civil schools of the country.

In order to be able to confine instruction at the naval college to naval matters, it is necessary that the general education necessary to enable them at once to begin their naval work should be completed before they join. This includes some mathematics, science, general history, foreign languages, and English, all of which have a bearing in different degrees upon the naval profession.

Some, but not much, mathematics are required for navigation; and, except in the case of those few officers who will later devote themselves specially to the higher aspects of gunnery, torpedo, signal work (in wireless telegraphy), or design, such mathematics as are sufficient for undertaking the work of navigation will be sufficient for all officers. The ordinary sea-officer, the 'salt-horse' man, who has, for instance, to command a destroyer, a turret, a battery, or to control fire, makes no use of higher mathematics in performing these duties, and has therefore no need to learn them. Mathematics to them is not so much an education as a means of intellectual gymnastics. In so far as gymnastics are a necessary part of mental training, stimulating to imagination, inducing accuracy of thought, and forming the foundation of a mental capability to deal with the type of problems that will present themselves to the officer in his later life, they are of value. To estimate their value one must consider in what these problems largely consist. They consist in the management of men, the analysing of situations, and the preparation and execution of measures proper to deal with these situations and these men.

The characteristics and mentality necessary for such

work are not necessarily produced by the study of mathematics, nor are mathematics themselves essential to the officer. Admiral Jurien de la Gravière, describing his modest mathematical knowledge, remarked in his *Souvenirs d'un Amiral*:

‘C’est avec ce mince bagage scientifique que je suis arrivé au grade d’officier général, et que j’ai commandé des vaisseaux et des escadres. Je ne sais trop ce que j’aurais gagné à pousser plus loin mes études. Si l’on en croyait certains gens, la marine deviendrait une succursale de l’Académie des Sciences. J’aime mieux qu’elle demeure ce qu’elle était avant la Révolution, *le premier de nos corps militaires*. L’honnête Iago, après tout, a raison: ce n’est point un arithméticien que le More devait choisir pour son lieutenant dans le commandement de la flotte Vénitienne.’¹

Forty-five years ago Lord Brassey expressed anxiety as to whether we were not even then overdoing mathematics in our naval education, with the result that many who had no aptitude acquired but a slender knowledge, combined with ‘absolute ignorance’ in other matters which would be of equal value in a naval career. ‘In the average naval officer, practical navigation and pilotage, practical gunnery, nerve in handling ships, tact in dealing with men and general culture, including the ability to write a good clear report, are the qualities needed.’

Capacity to deal with situations in war is more directly to be obtained by a study of precedent, of how such situations have been solved by other people. The most apt preparation for the solution of problems of war is a study of the problems of war. As no one, however vivid his

¹ *Othello*, Act 1, sc. i, is here referred to. ‘One Michael Cassio, a great arithmetician that never set a squadron in the field nor the division of a battle knows.’

imagination may be, can picture to himself all the situations which arise in war, nor the many different ways in which great captains have solved their own difficulties, so it is necessary to make use of the experience of others, and train the mind by its means. 'Man's imagination is limited by the horizon of his experience. When he attempts by guess work to outgo the bounds assigned, his frailty and ignorance stand apparent, he is like a child explaining the world by its dolls' house.'¹ This is strictly true; and it is in accordance with the opinions of all masters of war. It is in history that we find the experience of others. History, then, properly used as a study of cause and effect, and not as a mere exercise of memory, is a true mental gymnastic for a sea-officer whose goal is eventual high command, as not only will it exercise the reasoning faculties as fully as mathematics, but it will exercise them in a manner directly applicable to the work they are required to perform. Mathematics, carried to proper pitch, is, as Professor Whitehead has shown, an admirable instrument for training the mind: but time does not permit this to be done in all cases, nor are all minds adapted to mathematical study. Let, then, our datum of mathematics be guided by some broad principles. Let them be taught to the extent to which they are essential for the performance of the naval officer's duties. The technician may—I speak with reserve—require something higher: but let us recollect that the technicians should form only a small proportion of the officers: and that technicians, unless they can shake off their technique and project themselves into wider spheres, are not necessarily, or even probably, the best commanders.

¹ Walter Raleigh, *English Voyages in the 16th Century*, p. 152.

History is a necessary part of the general education of what is called an educated man: and we have said that the officer must be an educated man. European history, then, should be well taught before the boys enter the naval school, so that when that part of it known as 'naval' history comes to be taught, there already exists a sound foundation of knowledge of the general course and development of the nations of the world; and, what is no less important, an understanding of how to study history. In spite of the evidence of every great military thinker from Frederick the Great to Marshal Foch, the study of the history of maritime war has been greatly neglected in the Navy. The result was to be seen in the late War, in which it took nearly four years to rediscover and apply the old methods of trade defence, which were the A B C of our old sea-officers. Several principles and methods of naval strategy which were commonplaces to our ancestors were indeed never discovered at all. In the Navy naval history is taught, but in an elementary form only, up to the age of 17. A course which includes some naval history, though not in the strategical form in which alone it is of any value, is conducted later at Greenwich. It is, however, not without interest to observe that little difference was to be observed in the results of an examination (1922) between the boys who came from the Naval College and those from the public schools.¹

The necessity for some knowledge of natural science on the part of the community at large is being expressed more and more insistently every day, and we may there-

¹ For views of the importance of history in a fighting officer's education, cf. *inter alia*, Mahan, *Naval Strategy*, pp. 297-301; Hamley, *Operation of War*, pp. 417-18; the sayings and writings of Napoleon and Foch; the reading pursued by Napoleon and Wellington.

fore expect to see the schools of the country paying greater attention to it. It should be a part of the general education of every boy. Its groundwork should be carried well forward in the civil schools before the boys enter the naval college, so that when they come to handling the instruments and machines which will fall to their care, they may understand the principles by virtue of which they operate. It should not be necessary to devote time in a naval college to the study of a subject which is taught in the schools of the country. The entrants from the public schools have shown as good a knowledge of natural science as the Dartmouth cadets, and in some cases even a better knowledge.¹

Foreign languages, essential as they are to a naval officer, are not specifically 'naval subjects'. Like science and history they form a part of the education of every educated man. They should have been carried to a respectable distance before a boy joins. A far better standard than that which obtains at present should be insisted upon for entry.² They should be able to read with facility and to express themselves intelligibly.

The Committee on Modern Languages in its otherwise excellent report (Cmd. 9036, 1918) was unfortunate in the evidence given before it as to the naval needs. No witnesses competent to express opinions upon the bearing of foreign languages on the naval profession were called, none of those who gave evidence being officers acquainted

¹ This was shown in the examination in 1922.

² Sir Edward Seymour wrote: 'I am a strong advocate for naval officers knowing some foreign languages. . . . I should make it a rule that no boy might become a naval cadet unless he could hold an ordinary conversation in at least one foreign language. . . . Foreign languages are really more necessary to a sailor than to a soldier. . . .' (*My Naval Career*, p. 202.)

with the Service at sea, the business of warfare, or the needs of the naval officer in peace and war. In consequence, the Committee was led to express the following view. 'The needs of the two services are somewhat different. The first need for the Navy is speech, though an officer ranking as an Interpreter should also be able to write a letter, and in future naval officers *may* have something to learn from foreign works on the *technicalities* of naval operations and *equipment, for instance, in the submarine mining and air departments.*'¹ The limitations here expressed are representative of the limitation of the witnesses. It is unfortunate that no naval officer should have been spared who could have explained to the Committee the real importance of foreign languages. It is interesting to note that the military witnesses left the Committee with the impression that 'the military officer may benefit . . . by reading works in certain foreign languages on military history and military science'. The 'naval' witnesses, not knowing—as how should they, none being naval officers—anything about the art, science, or history of naval war, impressed with the tradition of matériel which governs modern naval education, confined the naval officers' need to a possible one of being able to read about the *technicalities* of such matters as mining. If any evidence were wanted to show how little military education is really understood in the naval service we are furnished with it in the choice of the witnesses and the result of their conversations with the Committee. It was not for the study of 'technicalities' that Collingwood recommended that a boy should be made 'perfect in French and Spanish, or Italian',

¹ The italics are mine.

or Kempenfelt and St. Vincent made their study of French.

Lastly, the other essential subject of general education is English. This, like the other subjects mentioned, has its naval application, for nothing is more important, particularly in the later stages of a naval officer's career, than that he should be able to express himself in writing. The effect of inability to do so shows itself very commonly in ambiguous or contradictory orders and instructions, in diffusely worded signals, in badly written reports which give an inadequate picture of what they are intended to describe. All of these defects were brought out in the war and did not escape the notice of the Admiralty, as various circulars have shown. But it is not only officers at sea who have made these mistakes, as orders issued by high authority have also been not less ambiguous and wanting in clearness. The late Sir Julian Corbett told the writer that, when he was engaged on his history of the late War, he was struck by the difference between the clarity of the French and the obscurity of the British dispatches. It was sometimes difficult, he said, to discover why an operation took place, what was done, and when various incidents occurred. This is not a purely modern experience. Lord Malmesbury, writing in May 1854, observed the same thing. 'The *Gazette* of last night publishes the dispatches of Admiral Dundas on the bombardment of Odessa. They are abominably written, give us no details, and have not even the merit of being concise. The French Admiral's report is very superior.'¹

On the basis of these five subjects—mathematics, history, natural science, foreign languages, and English—

¹ *Memoirs of an ex-Minister*, vol. i, p. 434.

we can define a minimum standard which must be reached before entry,¹ this standard being such that boys can proceed at once to utilize these subjects in their further nautical training on joining. These subjects, then, should form the basis of the qualifying subjects at entry, and should be obligatory. The proposed syllabus for the 'First Examination' should be examined.²

In order to encourage and to develop individual tastes, as well as to attain as high a standard of general education as possible, a choice of extra subjects should be offered. A higher standard of mathematics or mechanics, of branches of science—astronomy, chemistry, electricity, or heat—another foreign language, history, all of which have a direct bearing upon the more advanced technique and general work in the service, should be included: nor would I exclude the classics but rather encourage their inclusion, for we want men of the widest education possible. The later selection of officers for experimental work and technique in its higher branches would thus be helped, time would not be wasted in teaching officers what they cannot assimilate or will never use, and a measure of the capabilities and individual tastes of officers, and consequently their fitness for particular employments, will be roughly indicated at a comparatively early age.

Entry to the College should be made by open competition, tempered by nomination from head masters. It has been found in the army that by allowing this extra channel

¹ Sir Thomas Cochrane in 1861 said, 'There should be a scale of admittance given by the Admiralty, in which they should all be perfect. A real knowledge of the French language, we will say, and Mathematics and Euclid—in short whatever scale the Admiralty on due consideration think fit to lay down as the education of a naval officer.'

² Sir Frederick Kenyon, *Education, Secondary and University*.

of entry a class of boy is obtained who, while he might fail in the competitive examination, is of the material which makes good officers. There is ever an advantage in tapping the widest source of supply. Nomination by politicians or interested persons is open to the strongest objections for reasons with which we are all familiar; but the schoolmaster, with a long experience of the boy, and everything to lose in credit if he should recommend badly, is able to take an unbiased stand and to give an honest recommendation. A boy wishing to receive such a nomination should have his certificate of efficiency in the school O.T.C.; and his form in the school, his place in that form, his moral character, his influence, his characteristics, his position in the life of the school should be described; any other points which are of importance to an *officer* must be satisfactory. It is notable, I have been told, how boys so chosen come to the front as officers in the Military College. The rigour of the selection merely by examination is thereby relaxed, to the profit of the service. Even at that period in the mid-nineteenth century when this worship of examinations was in full swing, Sir James Graham, who as First Lord had done infinite harm to the Navy by altering the constitution of the Admiralty and Navy Boards, was aware of their limits. 'I think', he then said, in the Committee on the Admiralty, 'those who come in first in the class examinations at Eton are very often not the best at sixpenny corner, and playing football. *I should like a boy who fought a good battle and was first at football, quite as much as the best scholar.*' And when asked whether he saw any objection to a competitive examination in the exercises we admire in boys, so as to pick out the best swimmer, jumper, cudgel player, he said that if

boys of 12 or 13 were to have a competitive examination, an athletic competition would be indispensable. Here we have a forerunner of Cecil Rhodes.

With an entrance on these lines, open to the whole country, the Navy would be in a position to obtain every type of talent. The reproach that the sons of 'the people' cannot get through the present interview and are debarred from becoming officers in the Navy would be removed. Boys within the limits of age, could, as privates in the Army now can, present themselves and compete. All, whether from Eton or the boys' mess, would compete on equal terms, and the Navy, like all other public services, would be open to all. The test for entry would be the same for all, and the State would be guarded against the danger of men becoming officers who did not possess the education necessary for their position.

This does not, it is true, solve the question of *promotion* from the lower deck. The conditions under which one who has showed capacity in the lower and higher ratings should be advanced belong to a totally different line of investigation. In normal circumstances, the experience of a man in the lower deck does not prepare him for the work of command, though it may prepare him for administrative positions. The distinction is one of the highest importance.

One outstanding objection has been made to the later age of entry in recent years—I do not find it offered in those earlier investigations when it was proposed that entry should be deferred till the age of 17 or 18. This is that it would be quite impossible to obtain the necessary number of boys from the public schools. The type of boy required is said not to be forthcoming in large numbers,

and the reason attributed by the Admiralty is understood to be that while the small boy of 13 is under the glamour of the sea, the more sagacious, or sophisticated, youth of 17 has escaped. So I myself was told on many an occasion, when, as Director of Training in 1918, I advocated this course. The boys would not abandon the pleasures and privileges of the higher forms in a public school to join the Navy, with what is called its 'severe training' under rough conditions.

This has always appeared to me to be an assumption supported by no evidence whatever. The training in the Navy is no more severe than that at Sandhurst, yet boys are not deterred by the fear of severity from joining the Army. It is true, I understand, that no large numbers have offered themselves for the Navy. But when so very few are accepted it is natural that many should not offer. When I inquired of many public schoolmasters whether the schools could supply the needs of the Navy, the answer was that if they were the regular and recognized sources of supply there was no doubt that there would be an ample number. Clearly it is a matter of opinion: and whether the opinion of the schoolmasters is more likely to be right than that of the Admiralty, whose members have but little touch with the public schools, must also be a matter of opinion.

It is said that the quality could never be good enough. This appears to me to be a libel on the public schoolboys of this country who supply the Army, the civil service, and the great professions. It is, moreover, an extraordinary thing that while the German, the French, the Italian, and the American boy of about 17 or 18, or even older, is not afraid of roughing it at sea, the English boy

is supposed to shrink from the hardship. We hear a great deal, largely from naval officers, of the 'sea-sense' of the Englishman. Is this mere rhetoric, or are they talking with their tongues in their cheeks? The 'sea-sense' must be a very weakly plant if it cannot face the hardships of life at sea except when it is ignorant of them and is tempted into existence by brass buttons and flummery.

As I remarked earlier, those officers of the 'sixties and 'seventies who proposed that boys should enter at a later age were not afraid that youngsters would not go to sea: nor was that objection made to their proposal. To my mind it is the merest special pleading.

Some remarks of the late Grand Admiral von Tirpitz on the training of naval officers deserve particular consideration: for no one will deny that the German Navy was highly efficient. Its young men, as I have remarked above, entered at a much later age than the British. General education was promoted, and there was not only a full realization that the naval officer has not to construct ships or guns, but care was taken to keep the technician within bounds. 'The mind of the pure technician', he remarked, 'is not absolutely adapted to other tasks.' The most important thing in the executive naval officer was considered to be 'generalship'. That, in the end, was what he must possess.

'The higher naval officer must have spent some part of his life in the great world. Higher mathematics, so valuable as mental gymnastics, are, to a certain degree, dangerous for the naval officer. The subject is too absorbing in its inexhaustibility, and its exactness can, like any other theory, lead a man to underestimate the

imponderabilia, and to forget that the art of generalship is not a logical science, but is born of intuition, on which personality primarily depends. Therefore these categories which rise to the highest positions ought not to be trained as specialists.' An all-round training was aimed at.

VII

WHAT SHOULD BE TAUGHT AT THE NAVAL COLLEGE

'A courageous, self-reliant and intellectually alert man who has mastered the essential elements of a naval education will be a more efficient bel-ligerent if he is also an athlete, or an electrician, or a mathematician, or a linguist: but it ought to be an indispensable condition that qualifying for any of these has not been effected at the expense of a man's training as a seaman of a military service.'

ADMIRAL SIR CYPRIAN BRIDGE.

THE conditions of entry having been thus defined, it is necessary to consider what the boy should be taught in the naval college. Before doing so it is well to recapitulate our objects in order to make sure that we are clear in our minds as to what is being aimed at.

We require a good general education, a breadth of view, and a diversity of type. For these reasons we conclude that it is best that the boy shall remain at an ordinary school of the country as long as other circumstances admit. We are limited as to the time, as it is undesirable that he should come to sea very late, since we require officers to undertake their duties at sea comparatively young. We arrive at an approximation of the age of entry by making it such that his general education is completed by the time he enters the college. We now require that his time at the college shall be no longer than is absolutely necessary in order that he may get to sea and do his work. We have eliminated to the utmost civil instruction by completing it before he enters; and by a clear definition of the requirements of a sea-officer, we have eliminated engineering, which is a profession in itself, needing also a

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preparation wholly different from that of the fighting sea-officer.

The college has now to carry on the naval education. How far it shall be carried, and what limitations must be imposed, are the next consideration.

Our *object* at this stage is the first thing to decide. The object is *that the boy should go to sea as an officer*, able at once to take his place in the ship; no longer a schoolboy, but as a young officer, learning the practical work of his profession on a sound basis of theory and with a ground-work of practice.

The theoretical side of his technical work should therefore be completed in order that instead of spending, as at present, the best hours of the day under instruction he is doing an officer's practical work. An officer should not come to sea capable of making calculations of ballistics but incapable of drilling a gun's crew; knowing the 'principles' (on paper) of the organization of a ship, but ignorant of how to steer a boat or splice a rope or wire.

Therefore the college courses, besides covering the theory or bookwork of his naval occupations, should include the practical work of gun-drill, stripping guns, field exercise and company drill, boat handling, signalling, Whitehead torpedo and mining work, correction of compasses, taking observations. If we should take as a basis the sub-lieutenant's courses as they used to be held at the gunnery, torpedo, and navigation schools, and revise them in certain particulars, we should have a good outline of what should be taught at the college in those subjects. It is important that thorough instruction in hydraulic mountings and big-gun drill should be given in order that it shall not be necessary to appoint midshipmen

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to big ships only when they go to sea. It should then be possible to send them to ships of all classes, preferably on foreign stations, as it cannot be too frequently emphasized that education, in the real sense of the term, which is derived from foreign travel, from responsibility, from contact with people of all kinds, is in every sense as important and as valuable as that derived from mere continual study, of books or of technique.

The submarine has now become a unit of the fleet, and if nations decide to retain her the wars in the future will be largely affected by her. The importance, therefore, of knowledge of the handling and powers of submarine craft is required on the part of all officers, not only of a specialized few. We desire to avoid to the utmost specialization, as remarked elsewhere. We should therefore include instruction in submarine working in the college course. It need not carry cadets very far, but it should go far enough to produce an officer who can go on board a submarine and be of value as he can on board other types of vessel. The elements of 'submarine seamanship' should be taught to cadets, as the elements of land tactics are taught to military cadets.¹

Up till now we have dealt with the three technical subjects, our object, so far as they were concerned, being to carry theoretical instruction as far as is necessary for the officer who is not going to be one of the few specialists, and practical instruction far enough to fit him to take up his work as an officer. It must be so arranged that there

¹ It is worth remarking that several officers of the Merchant Navy served in submarines and proved highly efficient officers. I have myself been told by one distinguished submarine commander that the best officer he had was one from the Merchant Navy. The propensity to make mysteries of specialities needs ruthless crushing.

shall not be a recrudescence of examinations at a later stage. The youngsters must not have further examinations hanging over their heads. Examinations poison education. In the service the tendency is to stuff boy's minds with facts, and disgust them with learning. A boy's whole service becomes one long-drawn-out preparation to pass those examinations instead of preparing himself to be an officer. As a straw showing how the wind has blown the title of a book on seamanship written a few years ago was *How to get a First in Seamanship*—not how to become a first-class seaman, which needs no book. His own efforts and those of his instructors are concentrated upon this barren end. When the examinations are over, the mind, relieved of the pressure, reacts with vigour and abandons all further study. Not without truth did Mr. Lyttelton remark not long ago as a result of such a system that 'by 17 years of age the love of learning for its own sake has wellnigh disappeared for ever'.¹

Examinations provide no test whatever of an officer's capacity. The biographers of that great man, Sir Henry Lawrence, remarked:

'Had our Addiscombe professors been asked to name the cadet of all the 120 youths present at the Academy whom they deemed most likely to distinguish himself in after life, Henry Lawrence's name would have occurred to none. . . . There can be no doubt that had he been born 35 years later he would have been ignominiously rejected by the examiners in cadetship in the Indian Army.'²

¹ *Quarterly Review*, 1928.

² Sir Herbert Edwardes, and Herman Merivale, *Life of Sir Henry Lawrence*, vol. i, p. 27 (1872). Lawrence educated himself by reading. 'His mind thus became stored with facts and principles available for after service' (*ibid.*, p. 28).

A remark by Professor H. B. Armstrong on the perils of the British dye industry in July 1916 was equally applicable to the Navy. 'Owing to our blind worship of examinations we have lost the art of training real men.' Mr. Lyttelton has gone even farther, saying that the system has an injurious effect upon the training of character and remarks how few of our highest-honours men become leaders—an opinion that may be tested in the naval service by our experience at sea in the late War. The tendency in all other professions is towards an increasing distrust of examination as a test of capability, as Lord Cromer argued in a letter in *The Times*, 13 July 1916. They unquestionably have their uses, of which one is to ensure that a certain requisite standard of knowledge is reached, and another, possibly even more important, of eliminating opportunities of jobbery. There their usefulness ends.

If this is to be altered, and we are to prevent the sea life of the young officer from becoming a cram, the boy's instruction must be completed before he goes to sea so that he may be appointed to any class of ship and not be in need of the services of a naval instructor. Then and then only will he be able fully to profit by the fact of being at sea. Instead of being a schoolboy passenger he will become an officer.

The earlier discussions showed that the making of the 'fighting sea-officer' involved training him in other subjects than the purely technical ones. Seamanship makes the seaman, gunnery and torpedo practice form a part of his military knowledge. There remains the other and higher part of his military knowledge which is embraced by tactics and strategy, and the making of the *officer*.

Although a youngster will not in the first few stages of his career be called upon to decide in questions of tactics and strategy, it is proper that his mind should be early prepared for their study. To 'teach tactics' to a boy who has never been to sea would indeed be absurd, but it is necessary that the boy should be put in the way of learning those things, and that this should be done at the earliest stage of his career. His attention should be turned towards the fact that all of the technical subjects at which he is working are directed towards *war*; that fitness for *war* is the ultimate end of his existence, and that he must therefore appreciate what kind of thing war is, what its fundamental principles are.

'Suppose it were perfectly certain', said Huxley in his essay on 'A liberal education', 'that the life and fortune of every one of us would, one day or another, depend upon our winning or losing a game of chess. Don't you think that we should all consider it to be a primary duty to learn at least the names and the moves of all the pieces; to have a notion of a gambit, and a keen eye to all the means of giving or getting out of check? Do you not think that we should look with disapprobation amounting to scorn, on the state which allowed its members to grow up without knowing a pawn from a knight?'

Huxley's simile referred to the teaching of the Laws of Nature. But every word of it is applicable to the teaching of the Laws of War. To naval officers it is as perfectly certain as it can be that if war does come, the lives and fortunes of every one of them will depend upon winning or losing a battle, a campaign, or a war; and not only our own lives, which are unimportant, but the life of the whole of the Commonwealth. It is as necessary for us to have a notion of the 'naval gambit', of the means of giving

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or getting out of a naval check, as it would have been for Huxley's hypothetical chess player. Yet it is not too much to say that we are allowed by our Service fathers to grow up with hardly any more knowledge of naval war than that which corresponds to the difference between a pawn and a knight: a difference which after all is comparable to a knowledge of the functions of the various pieces which go to making up that set known as a Navy.

The only foundation other than actual experience upon which any one can build is the record of the experience of others, and even experience of war by itself is insufficient; for except in rare cases only a fraction of war is seen by an officer. In the late War, for instance, an officer may have served in a destroyer, a battleship of the Grand Fleet, or a gunboat on the Tigris. He will have had experience of the war work which has fallen to those craft; but he may have had that experience only and no more. He will not necessarily, or even probably, have increased his knowledge of the problems of grand strategy, of preparation for war, of trade protection, of co-operation with troops in combined work. He may have heard these matters discussed; but information was not very freely diffused during the late War. It was said, 'The Channel knows little of what has happened in China, nor does China know what the Cape has been doing'. Even, however, when we shall have studied the War, we have to remember that it has not embraced by any means all the possibilities which exist in a world-wide empire like our own. The vast superiority at sea of the Entente Powers reduced naval operations to comparatively narrow limits. If another war should occur a generation or more hence there may be a far less unequal distribution of strength, and

we may find ourselves faced with some of the difficult blue-water strategy which played so great a part in the wars of the past.

Thus neither experience nor an examination of the operations of the Navy from 1914 to the peace will by themselves be enough, and we shall require to fall back upon the experiences both of to-day and of the past in history; for the principles of war are unchanging. A beginning, therefore, should be made at the college to introduce the youngsters to war by an explanation of its principles illustrated by means of naval history, the method recommended by Mahan.

As will be seen from various writings,¹ naval history has received far more attention of late years than previously, and the late War will provide a vast and invaluable addition, which it is of the highest importance should be available for use as soon as possible. In the manner of teaching it is indispensable that the subject should be made as interesting as possible, and be taught not as an 'examination subject' in which a number of facts are to be committed to memory, but as a means of stimulating thought, encouraging the individual study of war. The valuable intellectual development, as Professor A. N. Whitehead has remarked, is self-development. An education which does not begin by evoking interest, and end by encouraging it, is wrong. To 'teach' history as a mere record of facts is not only valueless. It is injurious, for it creates a distaste for the study of the past—of experience.

¹ *Naval and Military Essays*, Cambridge University Press; *History* (the quarterly Journal of the Historical Association), vol. i, no. 1; Mahan (*Naval Strategy*); the many books of Sir Julian Corbett; and the works of the French military writers, Desbrière, Colin, Baudry, Daveluy, Castex; and of Sir Reginald Custance and Sir Cyprian Bridge.

History should be a vehicle for making men think—mere examinations in memorized facts do not do this. We wish the boy to apply the habit of utilizing knowledge, not merely to absorb, from books or lectures, a set of facts, and commit them to memory, with the object of extruding them at an examination. To this end the freest discussion is needed.¹ The independence, initiative, and acceptance of responsibility which it was Moltke's object to cultivate in his officers will never result from a system which does not start by encouraging independence in opinion, opinion based upon reasoned thought. History is one of the most useful instruments in our educational armoury for this purpose. Parallels between the situations of the old wars and the most recent should be freely drawn whenever they are really applicable, and the immutability of principles made a cardinal point throughout. Above all, the young men must do their own thinking. No one 'learns' from lectures, which indeed tend to being dogmatic assertions rather than to stimulate and excite thought. Men are very prone to giving what Sir Thomas Browne called 'an easie assent to what is obtruded . . . whereby men often swallow falsities for truths, dubiosities for certainties, sensibilities for possibilities, and things impossible for possibilities themselves'. This blind acceptance, this neglect of inquiry 'rather believing than going to see; or doubting with ease and gratis than believing with difficulty and purchase'² is only too common in the Navy. It has evil results.

¹ 'If you will think deeply on the different parts of the subject, if you will discuss, debate, and argue about them among yourselves, you will come to sounder conclusions on the grave problems of Imperial Defence than you would if you were to take for granted what I, or for the matter of that any lecturer, might say to you.'—*Admiral Sir Cyprian Bridge*.

² *Pseudodoxia Epidemica*, Cap. 5.

One other subject, not directly naval, in which an overlap between the civil and naval instruction is unavoidable, is foreign languages. Foreign languages are of the highest importance to a naval officer, not only in the ordinary duties of peace time, but also in preparation for war and in war itself.

Their value in war time is well enough known to need no comment. In the preparation for war, unless the writings of foreign students and historians can be read with ease, a whole section of most important naval literature is denied to the student. In the past we borrowed largely from French tactical thought, and the active Latin mind has been busy in recent years in that imaginative and logical side of the preparation for war in which the less imaginative and less logical Anglo-Saxon is deficient. The Germans before 1914 studied the Anglo-Dutch wars, and the *Marine Rundschau* used to contain much examination of the tactics of the Dutch leaders, particularly De Ruyter; for Holland had certainly been the spiritual home of German naval tacticians. The importance of understanding the workings of the mind of a probable enemy is well known. Naval officers should be capable of studying foreign sea literature and making deductions and anticipations therefrom, otherwise a whole country is closed to them.

On this question Lieut. Baudry makes the following very proper remarks :

‘The information collected during peace should admit of the tactical intentions of the enemy being foreseen (as Nelson at Trafalgar counted upon Villeneuve’s inert line, and Villeneuve himself anticipated that same point-blank attack at close range and effective concentration upon his rear which he

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Yet how are we to discover these principles if we are ignorant of the language of the enemy and unable to study his writings, which will be the reflection of the tendency of the tactical thought and fighting principles? It is idle for officers to adopt the attitude of Goldsmith's Principal of Leyden.

It has already been advanced that a high standard of at least one foreign language should be insisted upon for entry to the naval college;² and that another or more should be permitted to be offered as one of the extra subjects, the standard again to be high. It is necessary not to allow this knowledge to drop away afterwards, as by disuse it is liable to do.

One of our objects in learning foreign languages is to enable us to read the foreign naval history and naval philosophy of to-day. The teaching, then, of the foreign tongues might well be combined with a study of foreign thought. Provided a sufficiently good standard has been insisted upon for entry, we should in this manner be making the most direct use of the language at the same time as improving our knowledge of it. A French or German lesson, instead of being a dreary attempt to learn the grammar of these tongues, would then have the interest of an absorbingly interesting subject, the foundation of the future higher education of the sea-officer.

The last point for discussion is the making of the 'officer'. Much has been written on this from the military

¹ *La Bataille Navale*, p. 171.

² *Vide* p. 69 and note.

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side during the War; there is thus ample material for working upon.

It may be argued that the life at sea will by itself provide the necessary training; but more can be done than has been done, particularly in teaching the real meaning of discipline. The country is entering a new zone of social development, difficulty, and reconstruction; and discipline must be prepared for the new social conditions. For over a generation the French have made a great point not only of the duty of the men towards their officer, but also of the officer towards his men. French officers have been heard lecturing to their juniors and their men in officers' training camps using as their text Ruskin's address to the military cadets, or the self-sacrifice of Captain Oates or Sir Philip Sidney; thus instilling the lessons not only from French but also foreign examples. We saw the same idea in those valuable articles on discipline which appeared in *The Times* some years ago, written by military authorities. So far this has been treated somewhat lightly in our service of recent years, though the seamanship books of the middle of the nineteenth century of Captain Liardet and Captain Glasscock did not omit advice on this matter, as our modern books do. One result is that a change came in the relations of officers and men. Moreover, thirty years ago, when midshipmen at sea had their own boats, and midshipmen of tops were changed very little in their ships, there was an understanding between the midshipman and his cutter's crew or his topmen which was admirable. With the introduction of the 'new scheme', with bigger ships, with dissociation of a midshipman from his division for weeks at a time while he was at work in the engine-room, the

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youngster did not have this close association in his work with his men, and although the introduction of games and sports has gone far to restore the bond between them, it is not the same thing as the constant association between the midshipman and his coxswain or his topmates, which gave him an understanding of, and a sympathy with, the thoughts and customs of the lower deck. The young officer should again become an integral part of his division of men. He should not be taken away for school or instruction, but himself be an instructor of his junior ratings and intimately connected with the whole of his part of the ship. His men's interest should be his principal concern, their advancement his pleasure and interest, *their* failure he should look upon as *his own* failure. The duties of a cadet were summed up in an address to the cadets at Sandhurst on 2 July 1916 :

‘You will soon become officers in my Army, and as such you will have the great responsibility of watching over the welfare of your men, and leading them in battle. In order to become an efficient leader the first essential is that you should gain the confidence of your men, and this means that you must know how to lead them. . . . Knowledge alone is not sufficient. You must cultivate a high standard of honour, moral conduct, steadfastness and resolution and above all must be loyal to your superiors and to one another.’

Senior naval men, however, do not require to be reminded of this, for they know it well, but the higher naval authorities who direct education have paid no heed to it. No heed has been paid to this supremely important branch of the education of an officer because ‘education’ has been confounded with ‘instruction’, and used, in fact, in a narrow sense deplored by all thinking sea-officers.

'There is a vast difference', said Lord Cromer during the debate in the House of Lords on Lord Haldane's motion on education, July 1916, 'between education and instruction. Instruction furnished the intellect with knowledge; education, properly so termed, trained character.' Character is of more importance to an officer than anything else.

During the time—which would be about two years or rather less—spent at the college the cadet should be taught what an officer's duties are, *qua* officer. How this is to be done could not possibly be laid down, for obviously every commanding officer would act in accordance with the dictates of his own personality. And this is best. To pretend to draw up a syllabus in a subject so evasive, so easy to vulgarize, so intensely personal, would be foolish. One man might feel he could best instil his views by lecturing, treating the matter after the methods of the author of 'The Duties of an Officer',¹ or the Japanese rescript of 1882. Another might choose to do so historically, showing the different methods of discipline used in the past by different commanders. Others, philosophically, or as it is treated in an encyclopedia; while others in turn might delegate the whole matter to his lieutenants, impressing upon them his views and leaving the tone to be imparted by them. Whatever individual views as to the manner may be, the subject itself must not be left untouched. Captain Goodenough, in his essay on naval training in 1871 referred to earlier, called attention to this. The principles of command, he said, should be methodically taught, instead of, as at present, left to chance observation and the accidents of service. There is

¹ *The Times*, 1 April 1916.

no more reason why a boy who wears a coat with brass buttons should be expected to know more about discipline instinctively than does a boy in an Eton jacket. A high ideal is expected in naval discipline. The best chance of obtaining it should be furnished. At present a boy has to wait until he is a sub-lieutenant and goes through a 'course' of disciplinary instruction—a singular commentary indeed upon the claim that boys should enter young in order to imbibe the spirit of discipline! The principles of command are not to be instilled by a short intensive course, taking place some seven years after the officer enters the service; but methodically taught, the teaching spread over the period of his cadet training when he first enters the Navy.

We have so far provided for teaching the foundations of navigation, gunnery and torpedo work, for furnishing some elementary knowledge of naval history, and for instilling the principles that should govern an officer's conduct. Although we shall by these means be able to send the boys to sea in need of no further schooling, we want them to be still further prepared in a practical sense for performing their duties as officers. They require some practical experience in order that on joining their ships they shall not be mere Johnny Newcomes, knowing less of a ship than the last joined boy on the lower deck.

The instruction described will all, or nearly all, have been given ashore. Some small amount of ship work of a purely instructional character will have taken place, as some of the navigation, pilotage, and gunnery will have taken the cadets out into the Channel; but they will still be wholly inexperienced in ship life, its routine, and in the practical work of a seaman. They will be under one dis-

advantage from which the youngsters in the old days did not suffer—they will be older, and will not like being ignorant of elementary things. A boy of 12 to 15 knew he was a child and was not ashamed of making blunders, nor of consulting, and learning from, his coxswain or the captain of his top. A young man of 19 finds such a position less easy. He has become more self-conscious. He may be inclined to avoid seeking information and be afraid of doing things wrong for fear of making a fool of himself. But whether he is so affected or not, a boy who is going to take up the duties of an officer will be the better for some experience beforehand of ship life. This he can best acquire by the practical method of Mr. Squeers—by doing the actual work of a seaman in all its branches.

For this purpose some small vessels of the sloop class, cheap vessels and very economical to man and to maintain, would serve extremely well. They carry an armament of light artillery with which gunnery practice can be conducted. They can use small harbours where real and extensive pilotage experience can be obtained.

On joining the Naval College, cadets would first be instructed in navigation. This is the first essential for a seaman and should take precedence of all other subjects. The whole class would work at this subject for a course of about thirteen weeks,¹ which would be enough to cover the range of theoretical navigation and pilotage. At the end of that course they would be examined. As a candidate for a naval instructorship is able in a lesser period to

¹ Some experienced navigating officers were good enough to work out for me, some years ago, the courses and the time they would take. On an average these required about thirteen weeks.

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learn all the navigation that is needed to enable him to *teach* the subject, so in these thirteen weeks the cadets, who, by hypothesis, have entered with the necessary mathematical knowledge, could learn all that is needed for the foundation of their practical work at sea. It is longer than many an officer in the mercantile marine receives. There would then be no further examinations in the subject at any stage of their career, except for specialists on navigation.

After three months' hard study at the theory of a subject some recreation is needed before beginning a new one. After a short period of leave, the boy should go to sea on the lower deck of an attached sloop, as one of ship's company. There he would perform all the duties of a seaman and gunner, taking those of a lower order, living on the lower deck precisely as a seaman lives. The sloops should work in a squadron. Practice would thus be obtained of working ships in company, handling in close order, towing and taking in tow, firing at targets towed by each other; while an element of competition would induce an interest and provide a stimulus to the whole work.

After a six weeks' to two months' cruise, refreshed by the air and change of surroundings, the cadets would return to the college and go through a three months' course of gunnery, covering the theory of gunnery, hydraulics, control, organization. Practice firings from heavy guns from an attached monitor and light guns from sloops, torpedo craft, and submarines would be carried out. At the end of this, as at the end of the navigation course, a passing-out examination in gunnery would be held on the lines of a sub-lieutenant's examination of to-day, but remodelled. The object of the examination must be made

clear. It is to ascertain whether the youngster is fit to go to sea in a ship and undertake the duties in gunnery which fall to a junior non-specialist officer. As a young marine officer of the same age, in approximately the same time, is presumed to be capable of being prepared for his duties in less favourable conditions, there is no reason to suppose that the naval officer cannot be equally well prepared. His further knowledge will be the result of practice and experience, not of formal instruction.

A second short cruise in a sloop would follow. During this cruise the duties would be of a higher order; the boys would act as petty officers—quarter-masters, coxswains, gun-layers, and higher positions at guns.

After this cruise a course of a corresponding nature to those in navigation and gunnery would be held in torpedo, submarine, and mining work, ending as before in an examination. A final cruise in the sloop squadron would follow. More responsible work would be undertaken. The boys would be on the bridge as officers of the watch, take charge of anchoring ship, piloting, gun control, and in the instruction and drill of the younger cadets—one of the most useful of all methods of learning is to teach others. At the end of this cruise the final examination in seamanship would be held. We have recently seen a decision made to reintroduce training under sail for officers and men. Sail training in the past was of undoubted value in cultivating certain qualities. It is, however, of little value if it is confined merely to a few months, as it is understood that it is intended to be. The training of those officers in the merchant navy who profited so largely, as we know, from service under sail, lasted as many years in masted ships as it is proposed that naval officers shall

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serve months. Useful though even a few months might be, the value is not equivalent to the cost. On this, admittedly, there is room for difference of opinion. If, contrary to this view, even a short time under sail should be considered to merit the expenditure of time and money, then the solution would in my opinion be to utilize sailing craft instead of sloops in these three two-month cruises between and after the courses of instruction.

Such a course of training—the details of which have been omitted as far as possible—would furnish a young officer with more theoretical knowledge and more practical experience in eighteen to twenty-two months than can be obtained under the present system in seven years, and at a lower cost. The instruction and the practical work would be more interesting than it now is—if, indeed, the word ‘interesting’ is in any sense applicable to the work as it is now done. The breaks between study, the cruises into ports abroad, would prevent overstrain and provide recreation. Responsibility would be given in a steadily increasing measure throughout, and self-confidence, generated in that only possible way, practical work, would result. What is also of great importance—the young officer would learn from experience how a seaman lives and would better appreciate the difficulties of life on the lower deck. This would make him a better officer.

After such a training as this a midshipman could be sent to any vessel from a battleship to a destroyer and could undertake the duties of his rank. The bugbear which now vitiates our training at sea—the recurring examination—would be removed. The last examinations would be those already described.

VIII

THE TRAINING AT SEA

THE boy whom we should hope to send to sea would then be one who has received a training directed with one object clearly in view throughout; that is to say, that on joining his ship he should possess some ideas as to what an officer's conduct and bearing should be; that he is thoroughly impressed with the idea that war is his *ultima ratio*; and that he is grounded in the actual work which he will be expected to perform at sea in the early stages of his career; and has learned something of the practical seaman's work by doing it. It is now for him to gain experience as an officer in the capacities of seaman, gunner, and torpedo man.

The fundamental principle, as all the Committees on Education have insisted, is that at sea the midshipman should take his place in the ship like any other officer. He must not be under instruction. His instruction, as proposed, will have been finished. He would now be working with his men in their various duties, instructing them (which is the best way of instructing oneself),¹ keeping watch and being recognized in every way as an officer to whom responsibility is to be given. This is precisely what the young marine or regimental officer has to do, and does efficiently. There is no reason why the naval officer should not also be efficient. He should serve as a midshipman for such time as is necessary to fit him to undertake

¹ That is a well-known experience. As a commander I used to make my midshipmen lecture on the subjects they knew least about. They then *had* to learn.

the duties of a lieutenant. Two years would probably be sufficient. His advancement to lieutenant should be made upon his captain's recommendation that he is fit to perform the duties of that rank. No examination in the details of gunnery, torpedo, or seamanship is necessary. What he has learned at sea has been by experience, and no examination yet devised can test whether his experience has fitted him for higher duties so well as the actual test of their everyday performance. If the captain is obliged to state whether he is prepared to take the young man as one of his commissioned officers we shall have a sufficient safeguard against slackness, a safeguard far surer than any paper of answers can provide. Sir Christopher Cradock, that splendid officer whose zeal for training of youngsters is, I trust, still remembered in the service, wrote thus in 1912:

'I do not think for one thing that half enough attention, if any, is paid to the Captain's certificate, especially the final one given when the examination for seamanship takes place. A good certificate from a Captain of high repute should stand for much, *and make up for some stupid little catch questions asked and unanswered. Few men are gifted with the power to examine and draw the best and truest knowledge out of a boy.*'

How profoundly true is that remark! The present writer has seen batches of midshipmen go up for examination with whose capabilities and fitness he was fully conversant, with the most curious results, indifferent officers passing with flying colours, good officers put back. In some cases midshipmen whose retention in the ship has been applied for in anticipation of their passing for sub-lieutenant, recommended by the gunnery lieutenant of the ship on account of their value as turret officers, have

failed in their subsequent examination in gunnery. Although these officers had shown themselves fully capable of performing the duties required of them in charge of turrets, they were put back, to cram for a couple of months sufficient knowledge to answer questions on matters which have no concern with their practical duties.¹ Six months later this superficial kind of knowledge is forgotten. This, however, is too wide a subject to discuss in a paper of this kind; but it deserves attention of the most serious kind. If we look at the examination records of some of the most successful commanders at sea in the late War we find that a pre-eminence in examinations is not necessarily a qualification for command, any more than Sir James Graham's example of the best Etonian Examinee showed him the best at Sixpenny Corner, while we may well recollect that Marshal Foch passed out only 47th at the Polytechnique.

When the time comes for his advancement, what should that advancement be? At present a midshipman has to pass through the rank of sub-lieutenant. No necessity is seen for this intermediate rank. Lord Cochrane, who went to sea at the age of 17½, was made acting third lieutenant *by his captain* at 19, confirmed in lieutenant's rank six months later, and passed his examination six months after that. The examination which is passed is called the 'Examination for the rank of Lieutenant'. Why then should not the midshipman become a lieutenant direct as he used to do in the past? A sub-lieutenant does all the work of a lieutenant; he has to have a watchkeeping certificate, but this he could obtain as a midshipman;

¹ I am quoting actual instances, coming under my own observation—not imaginary possibilities.

some of the admirals of to-day kept watch at sea in corvettes under sail as midshipmen even before they were 18, and many passed direct to the bridge without serving at sea as sub-lieutenants at all.¹

¹ Alternatively, the term midshipman could be used for the officer while he is at college, instead of cadet. He could go to sea as a sub-lieutenant—a commissioned officer—as the marine officer does to-day. This I prefer. There is much childishness in gunrooms to-day, and some very undesirable practices pretending to be 'Traditional'.

IX

THE VIEWS OF PREVIOUS INVESTIGATIONS

THE discussion has now been carried up to the period during which the midshipman serves at sea. Abstract reasoning has led to certain conclusions. As it would be impertinent to pretend that the great subject of naval education is now being considered for the first time, we shall do well to inquire into what has been the verdict of the past in the matter.

Earlier remarks have shown that entry in the years from 1676 to 1849 was permitted up to the age of 16, and that the reason for the abolition in 1849 of the system of direct entry was the necessity it imposed of combining scholastic and practical training. We see thus that our practical ancestors fully realized the drawbacks of what has been called the 'half-timer' system. Let us now see whether this view was confirmed by what may be termed the 'theoretical' authorities, the Committees appointed to consider the question of naval education and training.

After 1849 the first Departmental Committee (as apart from the great committee to inquire into the Admiralty itself in 1861 which also dealt with the subject) appointed to consider naval education was one in 1870 under the presidency of Admiral Shadwell. This Committee made various recommendations, the whole tendency of which was the recognition of the evil of the half-officer half-schoolboy system. The Committee considered that all instruction afloat should be given up, and naval instructors in seagoing ships dispensed with. They gave many reasons for this. Twenty years' experience of attempting to teach

at sea had shown that it was not practicable, and the need for an elementary education had been fully proved. The principal reason for their objection to going to sea early, however, was '*the general incompatibility on which many of the most experienced witnesses strongly insist, between the position of an officer and a schoolboy, which it is attempted to combine under our present system*'. The boy's primary and secondary education should, they said, be completed before going to sea. Three years in a stationary ship, a summer cruise in training brigs in the last year, and a year in a sea-going training ship were asked for.

These recommendations were ignored—nay, not merely ignored but an opposite course was adopted. Not only were three years not granted, but the sea-going training ship was abolished. Thus, while a total of four years' training was held by this Committee to be necessary, the Admiralty reduced the time to two.

In 1871 Captain Goodenough read a paper at the Royal United Service Institution advocating later entry. A distinction, he insisted, should be made between the period of *education* and that of *Special Training*. Education should be conducted in the schools of the country, special training should be the business of the Government. On entering the service afloat in sea-going ships, the midshipmen should become at once in some measure responsible officers. He did not consider the age of 17 or 18 too late for a reasonably educated lad to accept and attach himself to the service at sea. Thus he differed from those who to-day think it necessary to 'wash the boy's face in salt water'.

The two-years' training proved a failure, and in 1875 another Committee, under Admiral Riçe, was appointed.

Like its predecessor it condemned the half-timer. 'The midshipman, instead of learning seamanship and the duties of an officer, has to devote his time to elementary studies, which ought to have been firmly fixed in his mind years before, *and too often acquires a dislike for a profession which appears to him rather that of a schoolboy than of an officer.*' They attached high importance to 'the relief of the midshipman from the necessity of devoting his main thoughts and time to mere school studies'. The Committee went so far as to recommend the abolition of the *Britannia* and the substitution of a shore college on the lines of 'the best public schools'. The Shadwell recommendation of a three-years' course was repeated and also the age of going to sea was to be brought up to nearly 16. The boy would then go to sea with his primary and secondary education completed and would do his duty as an officer and in so doing would receive the most practical and suitable training.

Not one of Admiral Rice's proposals was adopted.

Professor Soley of the United States Navy, who was sent to Europe at this time to report upon the various systems of education, could only condemn that of the British Navy. The best he could say was that if good results were attained it was in spite of, and not on account of, the system, a remark which, in spite of Sir A. Hoskin's comment upon it as 'a Professor's antithesis', was strictly true.

Ten years later (1885), in consequence of a letter from the Captain of the *Britannia*, dated 7 February 1885, which indicated the need for improvement and advocated raising the age of entry by a year, another committee was appointed to consider the limits of age and subjects of

examination for entry, the course of study on the *Britannia* and of training at sea, the courses at Greenwich and Portsmouth for acting sub-lieutenant, the courses of study for officers qualifying for gunnery and torpedo lieutenants; and finally to offer suggestions for improvement of the education of executive officers of the Navy.

This Committee, presided over by Admiral Luard, examined the matter with great thoroughness, and as a result denounced the whole existing system. The *Britannia* was described as a cram, and the years of instruction at sea of so little value that after three or four years at sea the midshipman's knowledge of the elementary subjects 'though not so ill-digested and superficial as it was when he left the *Britannia*' was still 'far from ready or sound'. Reform was needed immediately.

'In saying that a considerable change in the system is now necessary, we mean that the present system fails to secure the best material for officers, and fails to give them that practical and intellectual training which is most calculated to secure their efficiency; and we mean further that no mere alteration of a detail here and there is likely to be effective.'

Strong words these!

With the utmost emphasis they condemned the half-timer system. 'It is a system that requires boys to study under every possible disadvantage of circumstance.' As to the value of the young midshipman at-sea they said, 'The duties discharged by young midshipmen at sea are of small value to the service . . . nor, again, does a midshipman on board one of the large ships get much experience even of wind and weather, and of the art of handling a ship at sea.'¹

¹ How much more is this true of to-day is common knowledge.

The Committee 'feared that in English and Latin, and general education, something has been sacrificed to the necessity for the severe drill in mathematics' and expressed their conviction that the system was a faulty one which forced boys to study such advanced subjects as those taken in the *Britannia* at so early an age 'and then to a great extent throw away the labour thus expended by placing the young officers in such a position that the further earnest pursuit of their studies is difficult and antagonistic to the necessary mastery of the duties of an officer; *which demands also that the general education of an English gentleman should be cut short at 13, whilst yet failing to secure a thoroughly efficient professional training*'.

Their recommendations amounted to a separation between primary, secondary, and higher education. Primary education was to be left to the schools of the country up to the age of 15; higher education to the Navy after 17, and secondary to be divided between the public schools and the *Britannia*. The *Britannia* course was to be of one year between 16 and 17. It was believed that the public schools would give special instruction between 15 and 16, and upon this the scheme largely depended. But though the Head Masters' Conference approved generally of the proposals, in practice it was not found practicable, for a boy would leave his school just as he was beginning to derive profit from it.

Thus this Committee agreed with all its predecessors, both Committees and practical officers, in tracing the evil inherent in the system of naval education to the attempt to combine instruction at sea with the training of an officer and added emphasis to the need for a general education. It found the solution in a later age of entry.

The Admiralty, as before, ignored the proposals. The age of entry was very slightly raised; so that cadets left the *Britannia* at the very age at which the Committee had recommended they should enter it.

Captain H. F. Nicholson, giving evidence before this Committee, was most emphatic concerning the evils of the half-time system and its result.

'Any attempt', he said, 'to pursue a successful scholastic course on board a ship must be necessarily accompanied by immense difficulties, which it is almost impossible to overcome. . . . I look upon the whole system as a complete failure, and nothing but the natural taste which the English boy has for the sea, and the instruction he has previously received on board the *Britannia*, enable him to turn out even a decently educated naval officer.'

He compared the British with the foreign systems of education, greatly to the disadvantage of the former, and recommended that all young officers should be entered by direct competition between the ages of 17 and 18. They should be instructed in their professional subjects at a technical training establishment for two years and go to sea as acting sub-lieutenants, thus abolishing midshipmen afloat. Captain H. C. Kane,¹ who, like Captain Nicholson, had served as Naval Attaché and seen much of foreign officers and their training, took a similar view. Foreign officers, he said, were better educated than our own, especially German officers. The system of naval instructors in ships was a 'total failure' and should be abolished.

The increase in the fleet following the Naval Defence Act imposed a need for more officers. How they should

¹ The writer served under Captain Kane in 1888 and 1889, and collects with gratitude the interest his captain took in the midshipmen.

be obtained had to be decided, and the question was put to the *Britannia* staff. The answer was that three methods were open:

- (1) By allowing direct entry up to the age of 17 from public schools.
- (2) By establishing a second *Britannia*.
- (3) By reducing the time in the *Britannia* to one year.

Of these the least desirable was clearly the last: but it was the cheapest and could be justified by referring to the Luard Committee—ignoring the fact that the recommendation formed a part only of a whole scheme of reconstruction. It was adopted and so the seal was doubly set on a system which had been steadily condemned since 1849.

In 1896 naval education formed the subject of the Prize Essay of the Royal United Service Institution.

The winning essay recommended a trial of a later age of entry, principally in order to furnish officers quickly. The second essay recommended entry at from 15 to 17. '*A naval training establishment is not for the purpose of teaching those things that are learnt at any Board School, but for imparting a knowledge of advanced subjects, and those directly connected with their particular profession.*' Commenting on the effect of sending unfinished youngsters to sea, the essayist, Captain S. M. Eardley Wilmot, R.N., continued,

'Thus, mentally ill-equipped, a boy goes to sea at sixteen and for the next three years endeavours to advance the theoretical knowledge he has attained. The effect of insufficient grounding is then seen, and *though stringent regulations have been promulgated that nothing must interfere with the young gentlemen's school, very little, if any, advance is made.* . . . All

who have studied the question have been struck with the incompatibility, if not impossibility, of endeavouring to combine the work of a schoolboy with the position of an officer.¹

‘Stringent regulations’—for what purpose? To prevent an officer from taking part in the work of the ship and obtaining experience of the duties of a seaman and officer, *for which, and for nothing else, he was sent to sea!* And with what result? That ‘very little, if any, advance is made’.

Captain A. W. Moore, then in command of the *Britannia*, in the discussion on the essays spoke as follows:

‘Now I know there are many officers . . . who would view with great distrust any departure from the old established custom of entering executive officers young, but I would like to point out the altered condition of the life of the midshipman in the sea-going ship at the present time to what it was thirty or forty years ago. Cadets then went to sea at 14, became midshipmen of the watch first on the quarterdeck then on forecastle when the officer of the watch trusted them to look after the head gear, the fore topgallant mast and so on. They were then allowed to take charge of the watch at times and at the end of $5\frac{1}{2}$ years sea service midshipmen came up for their examination for Lieutenant with a real sound knowledge of seamanship, and had also learned thorough navigation and some mathematics. What are the conditions now? Cadets go to sea at 16 on the average and serve for $3\frac{1}{2}$ years as midshipmen; but what are they doing? Their forenoons are generally devoted to school, the study of elementary pure mathematics chiefly, and some navigation: in the afternoon they have instruction in gunnery, torpedo, seamanship and other subjects. . . . If these are the conditions, if this scholastic work is to go on, it is impossible for a midshipman to receive that training as a seaman and as an officer which has been the custom in the past. . . . I think if we were to send midshipmen

¹ The italics are the present writer’s.

to sea slightly older, with a solid groundwork in mathematics, they would become effective in a shorter period. I think it is far better to have a shorter time as midshipmen, and to take up responsible duties in the ship earlier than they do now.'

The third essay, which received commendation, took a similar view as to entry. 'A naval officer should be a cosmopolitan, an educated gentleman with considerable scientific acquirements in addition to mere professional skill.' Early entry involved either cramming, which was harmful, or nomination, which was improper in these days. 'The literary training of the midshipman, too, after leaving the *Britannia* is not satisfactory. . . . His studies must also be to a great extent neglected, and his brain becomes narrowed into a professional groove at too early an age. The combination of the position of an executive officer and of a schoolboy is an impossible one.'

It is clear that there must have been some reason of fundamental importance which led to the rejection of the continuously urged recommendations of the successive Committees, and the reasoned views of the writers of these essays. The great and experienced officers who considered the reports did so with great thoroughness, yet nevertheless, as we have seen, rejected the proposals. This reason lay in the importance they attached to going to sea young. That, and that alone, was at the bottom of the refusals to do what had been so frequently recommended with such undeniable logic. It was firmly believed that an officer could not join a sea-going ship at a later age than 16; the habits of discipline, self-reliance, readiness of resource in emergency, early responsibility could, it was averred, only be acquired by going to sea young. The facts that their education ceased, that little

responsibility or opportunity of developing a resourceful character fell to the midshipmen in big ships,¹ that the seamanlike training for which they went to sea had to be sacrificed to schoolwork from which no substantial benefits were derived—all these were put on one side, and a system which defeated its own ends was adhered to.

Eventually, in 1902, this system of going to sea young ceased to be considered a necessity. The 'new scheme' was introduced. A four-years' course at a naval college on shore was instituted, followed by eight months in a training cruiser. A fresh claim for youthful entry now appeared on the scene. The old one that boys should *go to sea* young, was supplanted by a new one that they must *join the college* young. For the former claim there had been a justification in the days of masts and sails. For the latter there was no educational claim whatever. There was no question of their getting accustomed to hardships of a sea life, of learning something of ships, or of obtaining early responsibility, in the sheltered walls of a great and luxurious building ashore where far less responsibility falls to a senior cadet than to his brother at a public school. The incompatibility of combining schoolboy and officer was, however, recognized. It was now fully intended that the boy's education should be completed before he went to sea. It was definitely stated that instruction at sea should cease and the naval instructor vanish. Yet both these institutions remain. To-day, a boy's

¹ It is important to reiterate that there is all the difference in the world between going to sea in a small vessel as the officers of the 'fifties and earlier did, and spending three-quarters of the year actually at sea, and going to sea in the bigger 'ironclads' and their modern successors, which promise no such training and spend less than one-sixth of a year at sea.

whole time is spent under instruction, learning the navigation he should have learned at college, or attending lectures in the other technical subjects, the groundwork of all of which should have been furnished before he came to sea.

Thus it will have been seen that the practical experience of over a century, the views of sea officers of great experience, and the weighed conclusions of Committees composed of naval officers and professional teachers from the great educational establishments of the country, all combine to corroborate the views to which abstract reasoning leads us. The scheme of 1902 most nearly approached the recommendations of the Committees; but failing to probe deep enough into principles it missed its aim. It did not sufficiently define what an officer must *be*. As a result, work which plays no part in the duties of a lieutenant, commander, captain, or flag officer—engineering—was introduced which absorbed so much of the time at college that the technical training in the essential branches of a sea officer's calling was neglected and general education suffered. Navigation, unfinished at college as time could not be found for it, was relegated to the cruiser; still unfinished in the cruiser, it had to be continued at sea. It was soon found that this could not be done without an instructor; the naval instructor was continued; and boys were even moved from ship to ship, with grievous effects upon their training, in order to work under him. Naval education and training was now back at the same point as it had been in 1849 with the only differences that it cost the country some three to four times as much money, and gave him less experience as a seaman.

Unsatisfactory results, and consequently waste of the

money that has been spent in attaining them, are the inevitable result of measures which are not based upon a sound principle. The War has cost us many millions. The history of the War indicates that the cost would have been less if naval education had been better. However this may be, it is certain that for every pound spent in the future we must get twenty shillings of value.

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INTERMEDIATE EDUCATION OF THE OFFICER

WHEN the midshipman is promoted to lieutenant he should remain at sea in order immediately to superimpose the practice of a lieutenant's duties upon the experience gained as a midshipman. No shore course is then necessary. He will now have no detailed examinations to pass. It is also undesirable, for it is far better that, full of self-confidence, he should at once begin to feel increased responsibility. He should undertake his responsible watchkeeping not after a year's spell ashore, but direct from his lower duties at sea which should have begun with watchkeeping as an assistant.

Our principal object now is to make him a capable lieutenant, to give him experience at sea involving responsibility on a higher scale, to make him confident in his power to take charge of a ship in all conditions, day or night, fine or foul.

Nothing could be worse at this stage than to interrupt his service at sea and bring him on shore. He has acquired a certain amount of experience as a junior officer, but even if he may occasionally have been entrusted with a watch (as midshipmen were in corvettes) he has been under supervision, he has not had that feeling of full responsibility which is essential for the development of self-confidence. I can recollect conversations among my own contemporaries in which we expressed the regret many of us felt at being brought ashore just at the moment when we felt we could go on the poop and take charge; and how much we felt we lost by being brought ashore at

that moment for eighteen months, and then having, in a sense, to start afresh.¹ It was a great mistake.

Keep the young man at sea, therefore. There is no necessity to bring him ashore for 'courses' in gunnery and other subjects. He went through those two years ago. The young marine officer does not need to be brought ashore to repeat what he did before he joined a sea-going ship. The young naval officer needs it no more than he. He had his grounding before he went to sea. He has had experience of over two years in *doing* his job.

The object at this stage is to make him a capable lieutenant, a seaman who goes on the bridge at any hour of the day or night in any weather with as easy a mind in his capacity to handle the ship and as naturally as the bus driver steps into his seat on a bus to handle the bus: an officer accustomed to the handling of men: a fighting man accustomed to the handling of his weapon and to training his men. How long does this setting of the seal of the sea upon him require?

In my opinion this requires not less than two years, nor am I very confident that that is sufficient. I do not think that the one year of watchkeeping laid down as a minimum for officers intending to specialize, is sufficient. An officer in a great ship to-day may get very little actual sea experience in the bridge in that time. How many days is one of the greater battleships actually at sea in a twelve month? Certainly not sufficient to make a lieutenant into a practical and professional sea-officer.

¹ It needs to be recollected that in the 'sixties officers were expected to learn their navigation and gunnery at sea in their midshipman's time, and they only came ashore to the *Excellent* and the college to pass the examinations. Cf. the *Recollections of Sir Edmund Fremantle and Sir Cyprian Bridge* and others.

The minimum period should, I consider, be two years, nor would I bring him ashore then if his captain thought he needed more sea experience.

Our officer has now served, under training at the college, at sea as a midshipman, and at sea as a lieutenant, for about six years. Of those six, four and a half have been spent in ships at sea—six months in the sloop squadrons as cadet (or midshipman), two years as midshipman (or sub-lieutenant), and two years as lieutenant. He may have been longer if his captains have not been satisfied with his competence as a practical officer.¹

During these years he will not have had much time or opportunity for individual study, nor indeed are we to expect that many young officers will pursue study at sea. The practical work of the ship, his responsibilities towards his men, his quarters, and his watch will have occupied his time very fully. The cabin of a lieutenant in most ships, and in many climates, is not a favourable place for study. It would in fact be idle to expect the average young man of the age of a junior lieutenant to engage himself in much reading and self-education. Some few may do so, the majority certainly will not; nor will it do any harm that they do not, for they will be learning many other valuable things and acquiring invaluable practical experience of men and the world in other ways.

But while we cannot expect our younger officers to

¹ At the age of 30 when he was promoted to commander, Admiral Bridge recalls that he had sixteen years of service, nearly all at sea. 'In the third quarter of the nineteenth century most officers were at sea for 250 or 300 days out of 365. In the last quarter the conditions were reversed and there were not many officers and men who had been on blue water ninety days in the year.' The Mediterranean Fleet did about sixty days' service at sea. Cf. also the *Memories of Sir E. Fremantle and Sir E. H. Seymour*.

pursue individual study, we can attempt to stimulate their interests. The principal duty of a Commander-in-Chief of a fleet or squadron in peace is to prepare his force for war—that is to say, the training of the fleet. There is ample provision made, and care taken, in technical training. Gunnery exercises, torpedo exercises, signal exercises are conducted unceasingly. One thing is generally left undone: exercises which stimulate the mind to think about war, the very business for which all these other exercises are a preparation.

Most young men's minds are not particularly interested in abstract matters, but in my experience I have found them very much interested in matters practical and concrete. Give a man a definite situation to examine and his mind is brought into contact with realities. Commanders-in-Chief can without any difficulty conduct strategical training by these means. A definite political situation can be hypothecated, in which the specific object of the sea forces on the station on which officers are serving is defined: the officers are set to deal with the situation, or with portions of it. A whole realm of new and interesting matters is then brought to their notice. The course and nature of the trade on the station on which they are serving, the many problems, both general and particular, of its defence, the protection of movements of troops through these seas, the manner in which the line of communications of a military force and of trade, would be maintained in hypothetical situations—these and an almost infinite number of other questions are matters to which investigation can be directed. What we need to do is to make officers think for themselves of matters that are actually round about them, and to give

them every possible help and encouragement in doing so. It is by such means that officers acquire knowledge of the problems of the oceans or areas in which they serve, and that they obtain an introduction to the study of war. There is not the smallest difficulty in doing this, as the present writer knows from experience. One thing is necessary—sympathetic and helpful comments on the papers which officers prepare. It is not only disappointing but disheartening to officers who have been at the pains of producing papers to have them returned without a word of comment or any indication that they have even been read; yet this has been done.

By such means the interest of officers at sea can be aroused to some of the practical problems of the use and duties—and difficulties—of naval force in war. That is not, however, sufficient. It is of great practical value in opening officers' eyes to the nature of actual problems within a definitely limited scope, but it will do little to furnish that solid foundation of principles which is needed. We require to make provision for the study of war on a more extensive scale.

Study of the higher aspects of war implies a study of the military humanities. The training outlined in the preceding parts has been confined to a steadily progressive development in the various branches of the military side of the officers' work. First, a civil education; next, a primary instruction in the weapons; then training in their use; following this, practice at sea with higher responsibilities, extended over about four years, during which every opportunity is furnished for developing the power of command which some possess as a natural gift, while in others it must be fostered and cultivated. But we have

not yet provided for that necessary study of war, which, as all experience shows, is necessary for those in whom some of the greatest responsibilities will eventually be invested.

The relation between practice and theory was well put long ago by a French military writer.¹ Practice, he said, in all arts preceded rules.

If we avoid the study of theory we begin war without experience, and have to purchase our knowledge by the expensive method used by Said Talib² of trial and error. Unless we have a clear vision of the functions of the fleet, we cannot put that instrument to its most effective use. Mistakes made at the beginning of a war will prejudice the whole further course and, in all probability, the results. Let any one consider how greatly the failures to use the Navy to the best advantage have contributed to the lengthening of wars, to losses, to failures, to unsatisfactory peace, to the burden of debt and consequent distress which, after the war, increases with every increase in its duration. The wars of the Austrian Succession and American Independence are outstanding examples of gallantry at sea being rendered useless through incompetent direction ashore; and these do not stand alone. Lack of forethought—that quality which Barham said was a rare talent and very seldom possessed—has prejudiced our success in all our great wars, not less in 1914 than in 1739. Sometimes the unpreparedness was the result of sloth, sometimes of parsimony; each entered into the matter in 1739 and 1778. But in every case it was the direct outcome of a lack of imagination, itself traceable to failure to derive knowledge from a study and analysis of preceding

¹ *Commentaires sur Énéas le Tacticien*, 1757.

² Cf. note, p. 35.

experience. The old men died, and their knowledge, nowhere committed to paper, died with them. Their successors had to build anew from the beginning. This we had to do in the recent War. Nothing is more worthy of remark than the way in which we gradually re-developed all the measures of trade defence used in the past. Small craft in large numbers, ports of refuge, routes, landfalls, patrols, local convoy, oceanic convoy, shipping committees, decoy ships, all previously forgotten, were re-suscitated—but how slowly! How many tons of shipping might have been saved if the defence of trade had been studied, as Marshal Foch puts it, ‘under a microscope’ and we had resorted to his ‘microbiology’! Or how many lives and millions of pounds which were lost in Gallipoli and Mesopotamia might have been spared us if we had made even a superficial study of the methods employed by Governments, fleets, and armies in the past, to whom most of the things we omitted to do were the merest matters of everyday knowledge.

The higher training here under consideration is that of which the aim is to produce officers capable of the work, afloat and ashore, connected with preparation for war and battle. No one will pretend that certain qualities essential to, and characteristic of, great commanders are the product of study alone. Determination, powers of decision and inspiration, physical energy, boldness, eagerness for responsibility, personal magnetism—these, while they are innate in men born to command, are developed by the conditions in which life is passed. They may exist in a man of comparatively slight mental attainments or little education, such as Blücher or Lannes—brilliant inspirers of their subordinates, leaders of men of the first order.

But these physical and moral qualities alone, while they may suffice to conduct a battle will not necessarily be accompanied by that mental equipment which preparation demands. Nor is it easy in peace to discover those who possess them, for the only test of peace is not searching enough, and a mere blusterer possessing neither physical nor moral courage not infrequently imposes upon his superiors by sheer ventosity and brag. Thus Clive, Sir John Fortescue tells us,¹ was a quiet friendless lad, out of harmony with his environment and grateful to escape from it to the refuge of the Governor's Library. What sort of 'confidential Report' would a naval Clive of to-day receive? A 'bookworm', a 'paper man', 'of academic tendencies', but quite unfitted for command. Braddock, however (especially if he had really been like Thackeray's picture of him), would have been a 'good practical man', marked out for advancement.

Preparation demands knowledge and the power to apply it. Nature alone will not furnish this. The higher training which is contemplated is not to teach men to be commanders, which it cannot do, but to train men to think in order that they may be serviceable in those spheres in which mental equipment is necessary.

Again, this is not to say that the natural, the born commander, does not need to study. Precisely the opposite is the case, as every great military thinker has insisted. If we can discover the born commander and superimpose upon his natural gifts a high mental capacity, we shall produce the best result of all.

'Genius', says Mahan,² 'is one thing, the acquirements of

¹ *History of the British Army*, vol. ii, p. 180.

² *Life of Nelson*, p. 199.

an accomplished (instructed) officer are another . . . and when to the former, which nature alone can give—and to Nelson did give—is added the conscious recognition of principles, the practical habit of viewing, under their clear light, all the circumstances of a situation assigning to each its due weight and relative importance, then, and then only, is the highest plane of military greatness obtained.'

As, then, we cannot discover a genius, nor can we train commanders except by practical work, it is our duty to produce *educated* officers, hoping that in so doing some natural commanders may haply have the opportunity of becoming in addition efficient war-thinkers who will pave the way and prepare the instrument for the leader to employ.

It is at this period of an officer's career that this study can best be undertaken. He is, as we have said, a seaman, and knows the capacities and limitations of ships. Under the guidance of his commanders he has been brought into touch with some of the practical problems of local naval strategy. His mind is mature, and, it may be, inquiring. If he is ever going to be anything more than a hewer of wood, a mere performer of limited tasks, he will have opinions of his own, sound or unsound. He will not be content to accept those copy-book maxims which unfortunately take the place, only too often, of reasoned thought.

It is now, before his mind can have become unaccustomed to the labour of thinking, that we should take him and introduce him to the more far-reaching problems and principles of war at sea, with all the ramifications which enter into its conduct. He can have had little opportunity at sea to acquaint himself with economics, with the

methods of sea-commerce, with international law. He cannot have had access to any considerable number of books, if, indeed, he has even known what books there are or how to extract the pith from them. Yet a knowledge of those economic and commercial matters is essential to naval officers if the Navy is to play the part which the Navy of a maritime Power is called on to play in war. The recent War proves, no less than those with the France and Spain of the eighteenth century, and of Napoleon, that naval action in the great wars of Coalitions takes place largely through the use of economic pressure. The remarkable knowledge which Nelson showed, when, as a young captain in the twenties he obtained an interview with Mr. Rose, the Secretary of the Treasury, is an example. Nelson, however, was by no means alone in this acquaintance with the problems of trade. The dispatches of the Admirals commanding in the West and the East Indies teem with matter which show how familiar these great officers were with the whole problem of the movements of commerce within the zones of their commands.

This cannot all be done at sea. It was not indeed at sea that those commanders in the past obtained their knowledge, but in those periods when half-pay tied them to the shore, unless some burning dispute, such as that which Nelson had over the fraudulent practices in the West Indies, brought them into immediate contact with the problems. To-day it is undoubtedly—a strong word, but one which in this case I think is justified—impossible to cover the ground, obtain the information, pursue the study in the only manner—that of constant discussion and continuous research—in which it can be effective, at sea.

At this stage, therefore, the officer should be brought ashore for an extensive study of war. The questions of how this study should be conducted, what it should include, how much it should be confined to what are generally regarded as 'professional' matters, would be tedious to answer in detail; but the general principles become plain if the object is defined. The object is to open the men's minds to the nature of sea war, to the manner of its execution; to give them that broad grasp which will enable them to make their own study in an intelligent manner, and not waste, as some of us have had to waste, so much time in groping in the dark to discover *how* to learn. Narrowly technical such a course should not be. It should embrace many things, for war embraces the whole of life. I would go so far as to say that some time should be set apart for optional study, the results of which should be shown at the end of the time in a written thesis.

The wider a man's interests, the more extensive his knowledge, the better commander he will be. Commodore Goodenough, in his essay in 1871, remarked, 'I believe that I may boldly say that we have scarcely a man in our naval history, distinguished as a Naval Commander in action, who has not been distinguished in some other pursuit, professional or otherwise, practical or scientific'. In the sixty years that have elapsed since that was written it has been abundantly confirmed in the biographies of the great men of the past which have since appeared: and we have seen the masters of great professions of all kinds deprecating whatever tends to narrow the limits of a man's mental horizon. Thus Sir Hubert Parry, addressing his students at the Royal College of

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Music, insisted constantly that he would not have them interested in music alone.

‘If you concern yourselves only with just the limited sphere of your own personal work, you only see a very small bit of life, and you get but a very limited range of experience. You may sometimes see a man working furiously night and day to perfect himself in something for which he appears to have an aptitude, and, apparently, never going ahead at all. It really does happen sometimes that the more a man works in a limited area, the less he can do.’¹

How profoundly true that is, and how excellently it sets out the dangers of specialization, whether the specializing be upon some technical branch of naval work, within the Navy, or whether it be specializing in naval affairs alone. ‘If a man applies himself to servile or mechanical employments, his industry in those things is a proof of his inattention to higher studies.’ So said Plato with perfect truth. Sir Reginald Custance said the same thing in other words about a portion of the subject. ‘Men who have been employed for many years in considering questions connected with guns, armour, building and repairing ships, cannot be expected to turn their thoughts to the study of war—a totally different subject.’² But can the time be spared? How much time is necessary? I consider that a year should be spent on this study of war. I do not think more than that is required or that less would be enough. I have been often met with the objection that we cannot take all the officers of the Navy ashore for so long: that it makes too great a break in their sea life and would be injurious. To this the answer

¹ Sir Hubert Parry, *College Addresses*, p. 113.

² Admiral Sir Reginald Custance, *Naval Policy*, p. 18.

seems plain. We have not considered it injurious to bring young officers ashore, at the age of 20 or 21, for more than a year to study mathematics and science and gunnery and torpedo. We have not thought their seamanlike abilities would suffer from a three-year course ashore in specialisation and junior staff duties. Nor have we thought those officers who spent longest on shore, first specializing for three years and later acting for another three as senior staff officers at the gunnery and torpedo schools, were unfitted for higher command by spending six years out of ten of their lieutenant's service on shore. On the contrary, it was they who were specially selected for promotion over the heads of their fellows, though they had the least service afloat of any officers in the Navy.

Nor is some service ashore necessarily detrimental.¹ It was far from uncommon in the past for officers to spend long periods on shore on half-pay. Nelson himself spent five years ashore as a young post-captain. Rodney, Duncan, Kempenfelt, St. Vincent, and Collingwood all passed through long periods of unemployment. Nor was such time considered to be wasted. St. Vincent attached high importance to the need of contact with the outer world and considered that an officer 'whatever be his own genius and assiduity' will not qualify himself with the necessary accomplishments for high command alone by 'an active and continual employ on the ocean'. When half-pay came to him we find him proceeding to France,

¹ Sir Geoffrey Phipps-Hornby was seven consecutive years on half-pay as a commander and junior captain. He was credited with saying, 'The longer an officer was on shore the better'. His meaning, Sir Edmund Fremantle said, being, that given sound grounding in naval matters a man's mind was enlarged, and he became a more capable officer, through mixing with civil life (*The Navy as I have known it*, p. 193).

learning French, then visiting the manufacturing towns and naval ports. Next year he goes to Russia, where he mixes in the society, examines the resources of the country, goes on to Carlscrona and the Swedish and Norwegian harbours, Copenhagen, Lubeck, Hamburg, and the Dutch arsenals and commercial towns. He did not confine his study narrowly to naval matters, but stored his mind with 'knowledge almost uniform in all the more important branches of national economy, on which, to the latest years of his life, he would continue gathering all the information within his reach'.¹

Howe, more continuously employed at sea, had the good fortune to serve under a captain, Edward Legge, who interested himself in the boy's education, and in his first voyage 'would not imbibe the vulgar sentiments of an horlop deck education' and instead lived in the captain's cabin and 'became inspired with the knowledge of your profession much sooner than those gentlemen who were obliged to attain it in the old rough style of practical seamen'.²

Kempenfelt, after the Peace of Paris in 1763, was ashore for seven years until the prospective rupture with Spain in 1770. 'He generally spent a part of the year in France, with a view to making himself acquainted with the principles and practice of ship-building, in which the French are allowed to excel, and of which he thereby acquired a complete and accurate knowledge'.³ After the Falkland Islands dispute had been settled he was ashore again till the outbreak of war in 1778 when he went to sea as Captain of the Fleet to Sir Charles Hardy.

¹ Tucker's *Memoirs of St. Vincent*.

² In an *Address to the Rt. Hon. the First Commissioner of the Admiralty*. By an officer, 1786.

³ *Naval Chronicle*, vol. vii, p. 367.

Sir Charles Napier was not unaware of the advantages of study ashore. During two years of half-pay in 1809 and 1810 he attended Edinburgh University and worked at history, chemistry and mathematics, moral philosophy, French, Italian, Spanish, and German: and among the earlier great seamen many will be found, and those the greatest, who attached value to foreign travel, civil society, and books. They were by no means seamen only, believing that every day spent ashore was a day lost, and that all that an admiral needed to know could be learned afloat.¹ Mixing with men of other professions, not merely in the casual meetings which occur while serving at sea but living among them, opens the mind to a world from which one is otherwise shut out except by books; and indeed brings one in contact with books of which otherwise one might not have heard. What use great military men make of books is illustrated in those lists of books which Napoleon took to Egypt and Wellesley (Wellington) to India.² These were not confined to military subjects. They included politics, civil history, and poetry. 'If you wish to serve your country, as a commander of any force, great or small, you must nourish yourself with study.'³ Sir William Napier thought the same.

'By reading you will be distinguished: without it abilities are of little use. A man may talk or write but he cannot learn

¹ Admiral of the Fleet Sir E. A. Seymour, whose first service ashore was at the age of 23 after ten years at sea, remarks, 'Though a naval officer's first requirement is to command a ship at sea, the higher he gets in the service the more he needs to be also something of a man of the world' (*My Naval Career*, p. 116). Again, 'I am all for officers of the rank of captain and above being at times on half-pay and thus able to travel, get their minds enlarged, and learn that the quarterdeck is not the world' (p. 171).

² Guedalla, *The Duke*.

³ Commodore Goodenough.

his profession without constant study to prepare, especially in the higher ranks, because he there wants the knowledge and experience of others improved by his own. But when in a post of responsibility he has no time to read: and if he comes to such a post with an empty head it is then too late to fill it and he makes no figure. Thus many people fail to distinguish themselves and say they are unfortunate—which is untrue. Their own previous idleness unfitted them to profit by fortune.¹

We have been inclined of late years to forget this, and to rest all our weight on the study of technicalities, and to condemn all that goes by the term 'academic'. Yet it was a warrior of the most academic type, Marshal Foch, who played one of the greatest parts in the salvation of Europe. 'Reading and discourse are requisite to make a Souldier perfect in the Art Military, how great soever his knowledge may be which long experience and much practice of Arms hath gained.'²

For these reasons it appears to me that a year spent on broadening the mind can only be of benefit to the officer, the Service, and the State.

A certain number of specialist officers is, possibly, unavoidable, and those who are needed for the specialist duties would be appointed to pursue the requisite courses at the end of this period. But this number has become excessive, and specialization has developed to a degree that is injurious to the service as a whole. No other Navy indulges in specialism to the extent that ours does. The ordinary foreign officer is sufficiently well instructed and trained to perform his duties without these extensive shore courses of ours, lasting, in some cases, for two years.

¹ Colburn's *United Service Magazine*, June 1864, p. 235.

² The Duke of Albemarle (Monk). Heading to the last chapter of his book on war.

An officer who becomes a gunnery, a torpedo, or a wireless specialist after spending many months ashore studying mathematics and science (in spite of the attention directed towards these matters in his secondary education) is removed, when he comes to sea, from practically all other duties in the ship. He keeps little or no watch. The only training he gets as a seaman is such as results from living on board a ship: in which his experience as a seaman differs very little from that of an engineer officer, to whom executive rank and command are not open for the reason that his training has not fitted him with the experience of handling a ship necessary for command of a ship. Yet one whose service as a lieutenant has been spent in the torpedo or gunnery school ashore, and in the office, in the turret, the torpedo flat, or the wireless room afloat, is getting no more seamanlike experience than the engineer.

Specialism is largely the result of the inadequacy of the training of the common run of officers. They do not know enough to undertake control of the particular part of the armament or equipment. If the general level were higher the need for specialists would be less, as it is elsewhere. Moreover, the existence of specialists tends to lower the standard of the other officers, who look upon gunnery as the business of the gunnery officer, torpedo that of the torpedo officer.

It may well be that the high standard of gunnery in the Navy is due to the specialist gunnery officers. But there was an undoubtedly high standard of gunnery in the German Navy, who, in so far as they had specialists, had not found it necessary to give them the long two years' training of the British officer. Their guns were as good as ours, their shells and their fuses were better. Their

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ships were well designed. Their torpedoes ran as well as ours. Their mines were efficient, while ours were not.¹ Their night fighting apparatus and control had reached a higher standard than ours. The reason would seem to be that entering their Service at a later age, with a thorough general education, the average level of knowledge was higher. At an earlier point I have recalled that Captain Kane, who saw the young officers of the German Navy who were later to be the commanders of that Navy in the recent War, considered them better educated men than our own.

There is yet another special branch—the so-called war-staff branch. Under present conditions staff officers are selected to go through a year's course either in the rank of lieutenant-commander or commander. If, however, such a course as I have indicated were instituted, that would take the place of this specialist course. There is no reason why it should not do so; and for the same reason that specialism in other subjects tends to debase the general run of knowledge, so in the great subject of war the same may occur. An excuse for not being acquainted with many of the problems is that 'I have never been through a staff course'. In the same manner as I deprecate technical courses and special branches, so I deprecate the need for staff courses and an exclusive staff branch. All that a future staff officer needs to know can be taught in a year at about the age of 25 as it can in a year at the age of 30, and with the additional advantage of having a younger mind to train. Such a course would do away with the present staff course, and officers for staff duties

¹ Thus one of their mines sank the *Audacious*, while three of ours did not sink the *Goeben*.

would be selected from those who had shown the required capacity in their year's 'war' course.¹

All of these measures would have one important result. Fewer officers would have to be on shore. One of the very serious effects of specialism carried to the excess to which it is carried in the Navy, is to contribute to the block in promotion, never more grievous, never more disheartening, than it is to-day. That block is due, largely, to the disproportion between the higher ranks and the lower. Such a situation existed in 1887, when only two lieutenants out of nine could be promoted to commander. The lieutenants' list then numbered only 873, the commanders' 225. To improve promotion the commanders were increased to 270, the result of the alteration in the proportion being to raise the number of lieutenants' promotions to two out of seven. At the present moment (June 1932), the proportions are very bad. In an answer to Rear-Admiral Campbell, who asked what were the present proportions of lieutenants and lieutenant-commanders who could reach commander's rank, the Civil Lord stated:

'At present and for the next three or four years only about 40% of *lieutenant-commanders entering the zone of promotion* can expect to be promoted to commander. After that, if no further reductions are made in the personnel, it is expected that about 50% of *those entering the zone* will be promoted. During recent years entries of cadets have been restricted so that it is hoped that when they enter the zone a substantially higher proportion of them will ultimately reach the rank of commander, probably about 55%.'

¹ Von Tirpitz (*My Memoirs*, p. 24) records that the special naval staff course was abolished in the German Navy., 'Those officers who are now appointed to the Naval Staff are preferably taken from the fleet.' But the German naval officer had a good general education to begin with.

It will be observed that the reply referred only to *lieutenant-commanders who reached the zone of promotion*. No reply was given to the part referring to the *lieutenants*. How much worse the situation is than it was in 1887 when two out of seven *of the lieutenants* could expect promotion is obvious. There were two ways of improving this—to reduce the lieutenants' list or to increase the commanders'. The latter course then was taken. That course does not seem possible to-day.

To-day the lieutenants' list is far larger. Is it impossible to reduce it? To that question there is one course deserving examination. The existence of a great number of specialists entails sending each year many officers ashore to the various schools to undergo the qualifying courses, and to keep many officers on shore for instructional purposes. There are specialists now in gunnery, torpedo, wireless, physical training, navigation; there are courses in discipline, in gas, in staff duties. Can none of these be reduced? As a Second Sea Lord told me a few years ago, these courses swell the list of lieutenants very appreciably. A drastic curtailment of them would assist in improving the conditions of promotion, and a curtailment would be possible if the scheme of education were revised, and a higher general level of education obtained, as is done in foreign navies. Our officers would spend more time at sea, which is to be desired, and the interests of economy would be served.

Nor, I venture to think, is it impossible that some of the specialist work of an administrative and purely technical character could not be transferred to other officers, officers whose ultimate duty will not be command of ships, squadrons, and fleets. Those officers who under-

take the highly specialized duties in gunnery and torpedo would, like their brothers in the engineering profession, pass off the general list and move up in the civil hierarchy. In the past, as I have observed earlier, officers who became commissioners of dockyards surrendered their military standing. So officers who become administrative specialists to-day should do the same. There would be few of them and their valuable services would be rewarded by promotion on a separate list, and by employment in many higher important duties in the Admiralty, the dockyards, the ordnance, the schools, and the manufacturing concerns. It is in this line of service that promotion from the lower deck can be appropriately made. The seaman on the lower deck is not, in the real sense of the word, a 'seaman'. He is a specialist in gunnery, in torpedo work, in electrical work. He may reach a very high standard of competence as a gunner or a torpedo-man. But this is not in any way whatever a qualification for command on the bridge. It is impossible for a man whose training has been so entirely between decks to obtain the experience which is needed on the bridge, or the opportunities for the study of war which a fighting-sea-officer requires. But the able men in this administrative line should have a channel of advancement, and that channel can appropriately be found in administration. The pegs, we are taught, should be of the same shape as the holes they are to fill. By differentiation to the extent indicated, between higher administrative work and command, we not only can provide for that promotion which is desired but can improve the promotion in the line of command and give—what is becoming every year more difficult—the sea time which captains need if they are to be true seamen.

RESPONSIBILITY FOR TRAINING

IN the Army, training is regarded as the business of the General Staff. The General Staff is in three main branches—operations, intelligence, and training and staff duties. The Director of Training is an officer selected for this special work and is responsible for it. The underlying theory is that the General Staff is the body which makes the preparations for war. It is therefore properly the body to determine the nature of the training.

In the Navy, training comes under the aegis of one of the Departmental Sea Lords, an administrative officer who is responsible for personnel and whose corresponding duties in the War Office are undertaken by the Adjutant-General.

The duties of the Second Sea Lord are very extensive. Having acted as an Assistant to a Second Sea Lord, and as Director of Training, I have had some opportunity of forming an opinion as to how far the efficient performance of the administrative duties of the office is compatible with an efficient direction of the training of the officers; and I have no doubt whatever they are incompatible. There is, it is true, an officer who is called the Director of Training. This appointment was instituted during the War by Sir Eric Geddes. It was then definitely established that the Director of Training was, as he is in the War Office, an officer of the First Sea Lord's staff. Staff work was, however, then in an elementary and embryonic condition. There was an opposition to it that might not inaccurately be attributed to prejudice. The mere word

'staff' aroused antagonism in the minds of the older officers that would astonish those to-day to whom a staff is a natural limb of any warlike organism. The Director of Training speedily ceased to be a real Staff Officer and was transformed into an assistant to the Second Sea Lord, of rather less importance, and of far less influence, than the civil gentleman who was then called the Director of Education.

Naval education and training, instead of being directed towards producing a fighting-sea-officer, was directed to no particular end connected with war. Instead of its principles being defined by naval officers, the whole control, for all practical purposes, is in civil hands. It is not practicable for any man, however great his energy, to control and direct, to formulate the principles and devise their execution, at the same time as conducting the vast administrative work which falls to the Second Sea Lord; and an official in the position of the Director of, or Adviser on, Education acquires powers which are entirely beyond his scope. For the Second Sea Lord has all the work connected with manning the fleet and mobilization, reserves, appointments of officers from lieutenants downwards, and a host of minor matters largely of detail, all of them of immediate importance. Sir Julian Corbett, when he was first brought into touch with this subject some thirty-two years ago, and was in the position of the outsider who so often sees most of the game, remarked:

'How any man can be expected to give adequate attention to this distracting complexity of work, *and at the same time originate and carry through radical reforms in any part of it*, needs no argument. Any one can see it for himself. Until we are willing to give the First Lord an adequate staff nothing

can be done. It is not the will, or the knowledge, or the capacity that is wanting.'

What was said in 1900 remains true in 1932.

Since the much-needed revival in gunnery which took place under the impulse given by Sir Percy Scott, we have gone to the other extreme—from the extreme of neglect to the extreme of complete absorption. A phrase came into being at that time that victory was due to the man behind the gun. How great a part the man behind the gun plays is plain; but he can do nothing unless he is put in the place in which he can exercise his skill. He is an essential factor but not the only factor. The idea that it is he who wins victories is analogous to one which has had no small vogue of recent years in the industrial life of the country—that wealth, the visible evidence of victory in industry, is produced wholly by the rank and file of labour.

Napoleon knew better.

'The Gauls were conquered by Caesar. It was not before the Carthaginian soldiers that Rome was made to tremble, but before Hannibal. It was not the Macedonian phalanx which penetrated to India, but Alexander. It was not the French army which reached the Weser and the Inn, it was Turenne. Prussia was not defended for seven years against the three most formidable powers by the Prussian soldiers, but by Frederick the Great.'

On the same strain one might continue indefinitely. The Ottoman Empire was preserved and re-invigorated by Mohammed Kiuprili, not by the Turkish soldier. The United Provinces owed their existence to William the Silent, their independence to Maurice of Nassau. Nelson, not the individual gunner, destroyed the enemy at Nile

and Trafalgar; Suffren, not the French seaman, shook the power of England in India. Everywhere the tale is the same. Under one commander great victories are won. The same men, under another commander, barely escape defeat if indeed they do not suffer it. The doctrine of the man behind the gun as the sole source of victory, of the superiority of the technician over the commander, runs counter to the whole teaching of history. It leads to the unbalanced teaching of technique and the neglect of the higher study of war and of command; and that in its turn infallibly results in a lack of trained and foreseeing minds capable of preparing for war and directing it in its course. It does more. It leads to the production of unsuitable material and to a waste of public money: to the production of such shipbuilding monstrosities as the great battleships too valuable to risk, the exaggerated size of cruisers, the worship of that most costly element, speed. It produces submarines armed with twelve-inch guns whose use no one had formulated when they were first designed, and whose employment no one could suggest when they were finished. It leads to the scornful treatment of strategical and tactical proposals like the closing of Zeebrugge and Ostend in October 1914, and the use of decoy ships. It carries the heavy responsibility for the unsound method of attacking the Dardanelles ports and the consequent loss of life in that tragic campaign. The idea is unhappily prevalent that a lifetime spent in administration, in scientific and technical study, in organization or in the invention of artillery devices furnishes a man with the capacity to direct war: as though the mere increase in the number of stripes on a man's sleeve endued him with the knowledge of war—a notion to which Carlyle might

have applied his saying: 'Men will soon see whether you are miraculous, celestial or not. Were a pair of breeches ever known to beget a son?'

One objection to change remains unanswered. It runs thus:

'The arguments produced may have some logical basis but there is stronger argument than mere reasoning or references to a far-away past—the argument of recent experience. The proof of the pudding is in the eating. The young officers trained in the way you condemn did admirably in the war. Admirals and captains have almost consistently reported well upon them. If they have done so well, why change the system which produced them?'

This argument assumes that the officers were good because of the training they had received; and that the aim of naval education goes no farther than the production of capable lieutenants.

The former of these assumptions is based on the not uncommon logical fallacy, 'post hoc ergo propter hoc'. The lieutenant was good. He had gone through a certain training. Therefore his goodness was due to that training. Inasmuch, however, as many officers of the mercantile marine and the Royal Indian Marine were also good, and although they had not been through that training showed that they possessed the same qualities of courage, resource, and adaptability (which is all that a junior officer can show), the argument that those qualities are the result of a training which *they* did not undergo is untenable. What the young officers from the naval college showed were those admirable qualities which, as Lord Cromer remarked in another connexion, are natural to our race. They were not produced by special training: or, as

Professor Soley had said, if they were good it was not because of, but in spite of, the system.

The second presumption, or assumption, that the final object of training and education is the production of lieutenants is wrong. In civil life we do not regard education as confined to the preparation of a man for the work he will have to do between the ages of 20 and 30. It is a preparation for life. So it should be in the Navy. The naval officer requires to be prepared not only to perform his duties while in the junior ranks, but to enable him to fit himself for those which will fall to him if he attains high command. Of that fitness the war, so far as the boys who had undergone the training established in 1902 were concerned, could give no evidence, for, fortunately, it did not last long enough.

Dr. Pangloss is the tutelary deity of all Government Departments. They proceed upon the assumption that everything is for the best in the best of all possible bureaux. Change is resisted on that assumption. But the assertions of perfection are sometimes followed by violent changes. It was only a few months before the 'new scheme' of training of 1902 was introduced that the First Lord, answering criticisms of the existing system, replied that he had recently spoken to a great number of captains who had expressed themselves completely satisfied with the training of the young officers. Before the year was over the system was altered root and branch. We may therefore with easy minds dismiss the assumptions that no improvements are possible, and that the present schemes of entry and training either represent perfection or command the support of the whole body of naval opinion.

SUMMARY

TO summarize the proposed training up to the period to which this survey brings it:

Entrance should be by competitive examination, with power to accept the recommendations of Head Masters who can testify to the officer-life qualities of the boys as shown by their influence in the school, power of leadership, character, skill, and spirit shown in athletics of any or all kinds. These last would have to reach the minimum standard laid down, but would be free from competition.

The examination to be in two parts. A compulsory datum of general education, including a defined minimum in mathematics, a foreign language, history. The standard for the foreign language to be high. In addition there should be several voluntary subjects, which should include all branches of knowledge, but in which a considerably higher standard is demanded—Latin, Greek, higher mathematics, natural science, another foreign language, European history, geography, economics. The candidate to offer a choice of such a number of these or others, as is considered proper.

The age of entry to be any age from 16 to 18.

On joining the College, the following courses of training to be pursued:

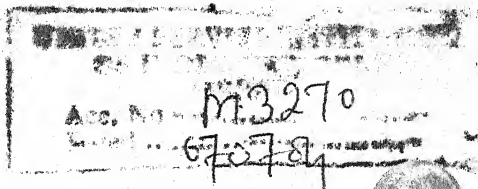
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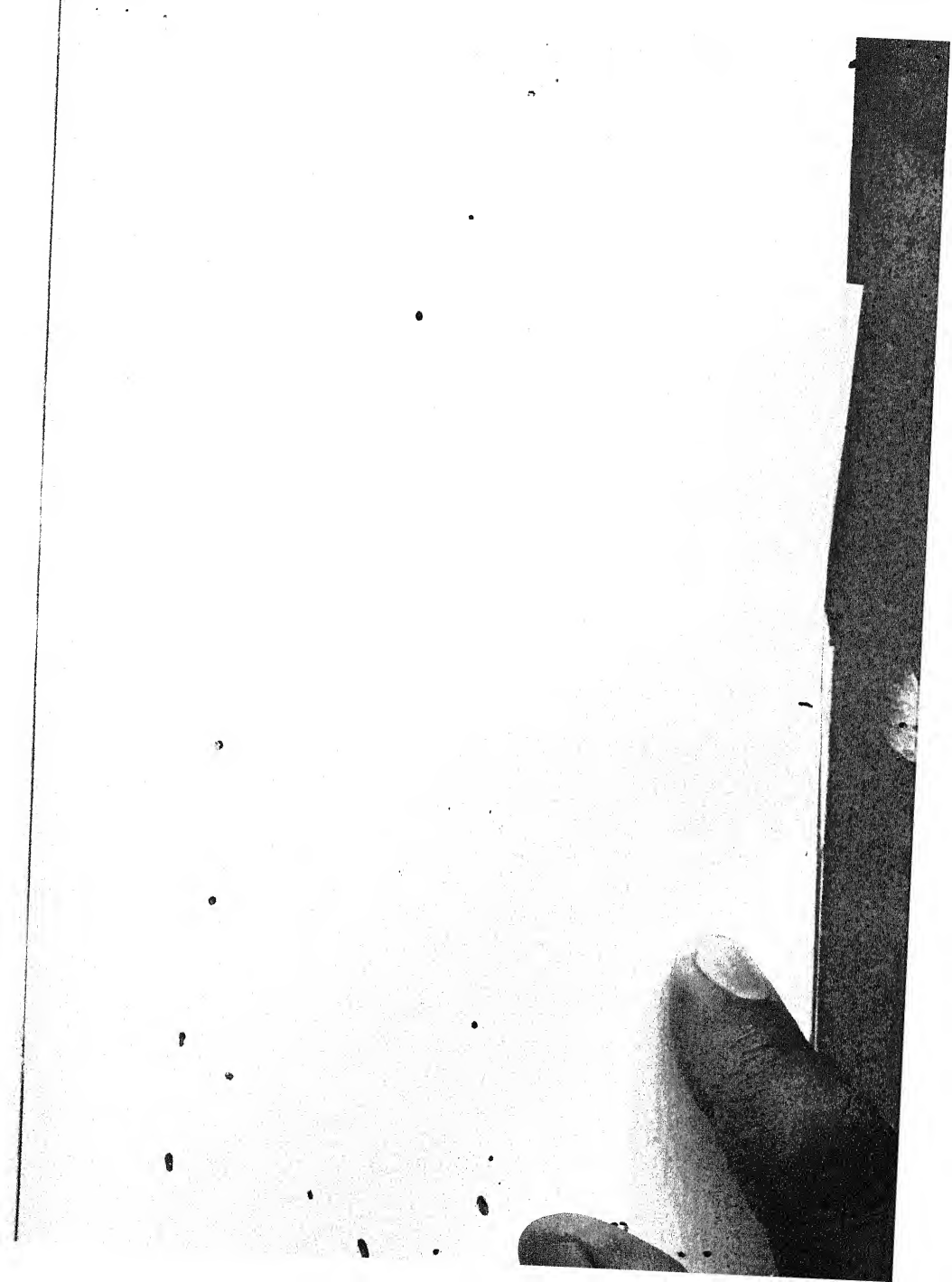
Period (approx.).

Age.
min. max.

Theory of navigation and pilotage. Examination on conclusion	3 months.		
A cruise in a sloop, as deck hand	2	"	
Gunnery. Examination on conclusion	3	"	
A second cruise, as petty officer	2	"	
Torpedo and under-water weapons. Examination on conclusion	3	"	
Third cruise, as officer. Examination in seamanship on conclusion	2	"	
	15	"	
Leave	3	"	
	18	"	17½ 19½
To sea, as midshipman, in ship of any class. Not to be under instruction, nor to have any further examinations. Minimum period at sea	2 years.	19½	21½
Advancement to lieutenant to be made on recommendation by his captain, deferred until captain is satisfied with his competence.			
At sea, as lieutenant, for minimum period of War Course	2 years.	21½	23½
	1 year.	22½	24½
No further instructional courses for the general service officer. Specialist officers in gunnery, torpedo, &c., to go through a shortened course after the War Course.			
Staff officers not to go through a special course, but be selected from those who showed aptitude in the War Course.			



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